

ecology and environment, inc.

1509 MAIN STREET, DALLAS, TEXAS 75201, TEL. 214-742-6601

International Specialists in the Environment

MEMORANDUM

TO: Ed Sierra, Region VI RPO

THRU: *FOR* K. H. Malone, Jr., FITOM *gpt*

FROM: *FOR* James Stacks, FIT Chemist *J.S.*

DATE: August 9, 1990

TDD: F06-9002-17

PAN: FTX1103PAA

SUBJECT: Preliminary Assessment
Francis Oil Company, Inc.
Carrollton, Dallas County, TX
(TXD068990340)

Attached is the Preliminary Assessment Report of the Francis Oil Company, Inc.

PRELIMINARY ASSESSMENT
This does not constitute
final opinion of EPA

SUPERFUND FILE

Reviewed by 6H-ES
Date _____

AUG 28 1992

REORGANIZED

PRELIMINARY ASSESSMENT

of

FRANCIS OIL COMPANY, INC.

(TXD068990340)

Prepared By

James Stacks, FIT Chemist

**Ecology and Environment, Inc.
Region VI**

August 9, 1990

SUPERFUND FILE

AUG 28 1992

REORGANIZED

PREFACE

This Preliminary Assessment Report was prepared by Ecology and Environment, Inc. for the Environmental Protection Agency under Contract Number 68-01-7347.

PRELIMINARY ASSESSMENT
of
FRANCIS OIL COMPANY, INC.

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1. SITE INFORMATION	1
1.1 SITE LOCATION	1
1.2 SITE BACKGROUND	1
2. BACKGROUND AND OPERATING HISTORY	1
2.1 SITE HISTORY	1
2.2 KNOWN AND POTENTIAL PROBLEMS	1
2.3 REGULATORY INVOLVEMENT	2
3. WASTE CONTAINMENT AND HAZARDOUS SUBSTANCE IDENTIFICATION	2
4. PATHWAY CHARACTERISTICS	2
4.1 GROUND WATER	2
4.2 SURFACE WATER	2
4.3 SOIL EXPOSURE	2
4.4 AIR	3
5. TARGETS	3
5.1 GROUND WATER	3
5.2 SURFACE WATER	3
5.3 SOIL EXPOSURE	3
5.4 AIR	3
6. CONCLUSIONS	3
REFERENCES	R-1
ATTACHMENTS	
Photographs	

LIST OF FIGURES

<u>Figure</u>	<u>Title</u>
1	Site Location Map
2	Site Sketch

1. SITE INFORMATION

The Ecology and Environment, Inc. (E & E) Region VI Field Investigation Team (FIT) was tasked by the U. S. Environmental Protection Agency (EPA) under Technical Directive Document (TDD) F06-9002-17 to conduct the Preliminary Assessment (PA) of the Francis Oil Company, Inc. (TXD068990340) in Carrollton, Dallas County, Texas.

1.1 SITE LOCATION

The Francis Oil Company facility is located at 1500 South Broadway in Carrollton, Dallas County, Texas. The geographic coordinates are 32°56'48" north latitude and 97°54'22" west longitude (Figure 1) (Ref. 15). The 0.34 acre site at the southwest corner of South Broadway and Roberts Drive encompasses 150 x 100 feet (Ref. 16).

1.2 SITE BACKGROUND

The facility was operated by Francis Oil Company, Inc., a Texas Corporation. It was chartered on October 14, 1987 and dissolved on February 9, 1990 (Ref. 14). The corporation has begun bankruptcy proceedings (Ref. 12).

The property is owned by Company president Mr. John W. Francis, Sr. (Ref. 12; Ref. 13).

2. BACKGROUND AND OPERATING HISTORY

The site's history, known and potential problems and regulatory involvement are addressed in this section.

2.1 SITE HISTORY

The facility appears to have been used as a motor fuel and lubricant distribution center at both the retail and commercial levels. Details of waste production, handling and disposal are unknown.

An off-site reconnaissance inspection was conducted on July 31, 1990. The Francis Oil Company service station is surrounded by a network of pumps, transfer lines and underground storage tanks (USTs). Access to the facility is unrestricted. There are approximately six drums visible from the street. Four retail fuel pumps with the Diamond Shamrock logo are visible. There is a structure at the northwest corner of the facility used for filling large volume fuel trucks (court records indicated that the corporation owned fuel trucks) (Ref. 12). There is a sign in the window indicating that the facility handled kerosene. The back door of the building was open. The pavement and soil around the building are apparently stained from fuel spills or mechanical work (Figure 2).

2.2 KNOWN AND POTENTIAL PROBLEMS

Potential contaminants of concern depend on the amount and type of mechanical work at the facility. There could be cleaning solvents

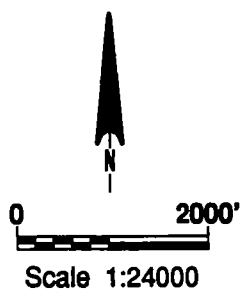
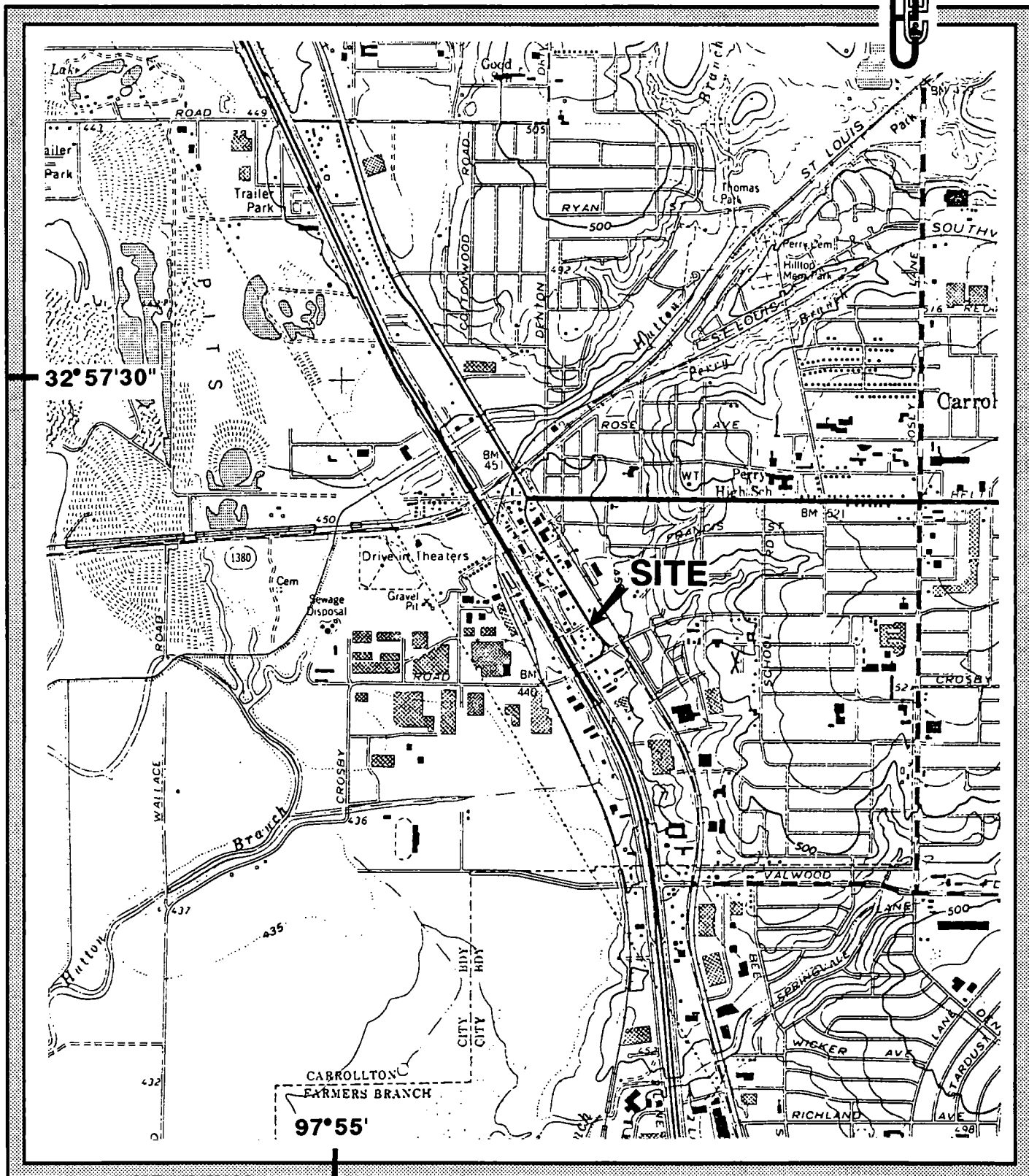
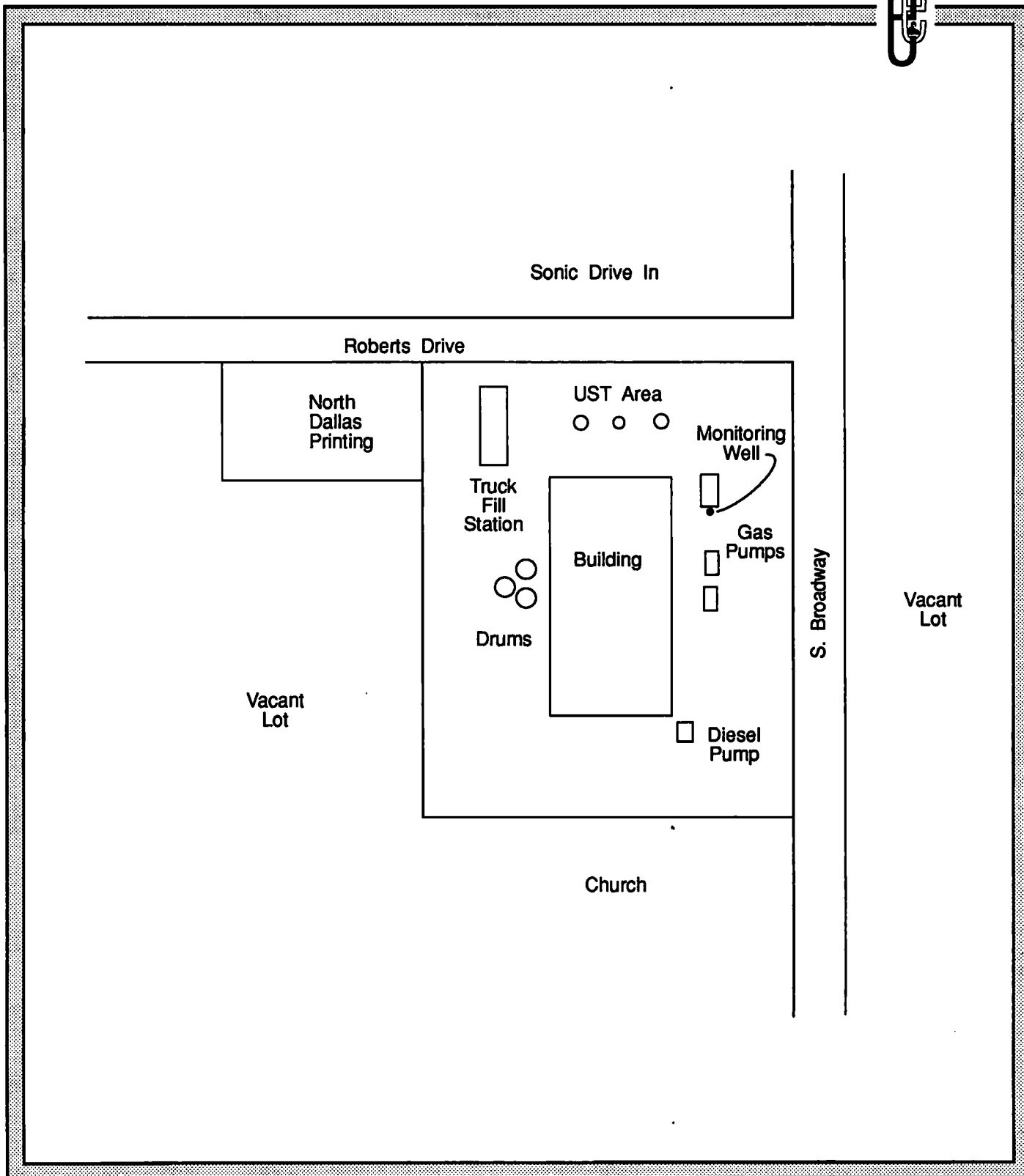


FIGURE 1
SITE LOCATION MAP
 FRANCIS OIL COMPANY
 CARROLLTON, TEXAS
 TXD068990340



F0115.CDR



Not To Scale

FIGURE 2
SITE SKETCH
FRANCIS OIL COMPANY
CARROLLTON, TEXAS
TXD068990340

present that might qualify as F001 wastes; however, unless such work was extensive and large-scale, the quantity of waste would be small. The status and contents of the USTs are unknown. The contents of the drums are unknown. There are no known analytical data to indicate that materials other than petroleum are present, but the station has a gas pump for leaded gas. No past regulatory action was discovered, other than inspections concerning USTs by the Texas Water Commission (TWC) and the City of Carrollton (Ref. 3). These inspections revealed evidence of leaking or overfilled USTs.

2.3 REGULATORY INVOLVEMENT

There is no known regulatory involvement.

3. WASTE CONTAINMENT AND HAZARDOUS SUBSTANCE IDENTIFICATION

No information was found regarding the amount of waste production, the type or quantity of waste generated, or types of site operations or containment structures used.

4. PATHWAY CHARACTERISTICS

Ground water, surface water, soil and air pathway characteristics are addressed in this section.

4.1 GROUND WATER

The aquifer used in the area is the Trinity Group (Ref. 6; Ref. 8). There is one standby public supply well near the site, completed at 2,475 feet in the aquifer (Ref. 2). The pump on the well is set at the bottom. The water level on the aquifer is assumed to be in excess of 1,000 feet below the surface (Ref. 2; Ref. 8). There is little chance that the site could pose a threat to the aquifer.

The alluvial aquifer is less than 50 feet deep, but its usage in the area has not been discovered (Ref. 2). Documented wells in the aquifer have been plugged (Ref. 8). If contamination were present at the site, the aquifer could be threatened.

4.2 SURFACE WATER

Runoff enters Hutton Branch approximately 1/2 mile southwest of the site. From there, it proceeds west to Elm Fork Trinity River, which flows south (Ref. 15). The point of entry into the river is downstream of the major City of Dallas surface water intake at Sandy Lake Road. The Bachman Lake intake for Dallas is just within the 15 mile downstream limit (Ref. 9; Ref. 15). There are no sensitive environments within the 15 stream mile limit or the four mile radius (Ref. 7).

4.3 SOIL EXPOSURE

The site is in a highly populated area near the central business district of Carrollton. There are fulltime employees within 200 feet of

the site. The site is not fenced and is readily accessible from all directions. There were no sensitive environments located within the area of concern (Ref. 7).

4.4 AIR

In the event that volatile cleaning solvents were present, the potential to release would be high.

5. TARGETS

Ground water, surface water, soil exposure and air targets are addressed in this section.

5.1 GROUND WATER

The nearest operational well is the City of Carrollton standby well, located 2.2 miles northwest of the site (Ref. 20). The City water system has approximately 24,000 connections, and the average number of persons per household is 2.65 (Ref. 2; Ref. 11). As a result, approximately 63,600 persons are served by the Trinity Sands Aquifer.

The area would qualify as a wellhead protection area because of the public supply well.

Use of the alluvial aquifer is inconclusive. Some residential wells may exist, but only the plugged wells have been documented (Ref. 3).

5.2 SURFACE WATER

The City of Dallas Bachman Lake intake is just within the 15 mile downstream segment of Elm Fork Trinity River. It serves 1,578,828 people, including the City of Carrollton and other suburbs (Ref. 1). There are no sensitive environments within the four mile radius (Ref. 7).

5.3 SOIL EXPOSURE

There is not an on-site employee population. There are fulltime employees within 200 feet of the site. The population within one mile is estimated at 5% (1,343 people) of the total population of Carrollton (Ref. 10).

5.4 AIR

The population within the four mile radius is considered the entire population of Carrollton. The 1980 census population was 26,860 (Ref. 10). The area is predominantly residential. No sensitive environments exist within the four mile radius.

6. CONCLUSIONS

The site is an inactive gas station. It is unlikely that hazardous wastes exist, although some cleaning solvents may be present. The site

is located in a highly populated suburb of Dallas. Ground water use is from the Trinity Sands Aquifer at a depth greater than 1,000 feet. The use of the alluvial aquifer is unknown. Surface water in the area is used for the City of Dallas drinking water supply. No sensitive environments exist within the area of concern.

ATTACHMENT A
PHOTOGRAPHS



Photo No.

1

Site Name:

FRANCIS OIL CO., INC.

Location:

CARROLTON, TX

CERCLIS #:

TXD068990340

Photo No.

2



Photographer/Witness STACKS

Date 7/31/90 Time 09:15 Direction WEST

Description FRONT OF FRANCIS OIL FACILITY



Photographer/Witness STACKS

Date 7/31/90 Time 09:18 Direction SOUTH

Description NORTH SIDE OF FRANCIS OIL FACILITY

Page 1

Of 2



Photo No.

3

Site Name:

FRANCIS OIL CO., INC.

Location:

CARROLTON, TX.

CERCLIS #:

TXD068990340



Photographer/Witness STACKS

Date 7/31/90 Time 09:24 Direction EAST

Description REAR OF FRANCIS OIL FACILITY

Photo No.

4



Photographer/Witness STACKS

Date 7/31/90 Time 09:30 Direction NORTH

Description SOUTH SIDE OF FRANCIS OIL FACILITY

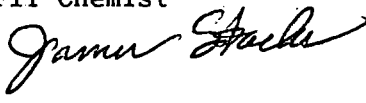
Page 2

Of 2

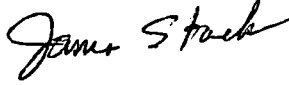
REFERENCES

- 1 Record of Communication. Population Served by Dallas Water System. From: James Stacks, FIT Chemist, Ecology and Environment, Inc. To: Katy McKain, City of Dallas Water Utilities, Planning Department, Dallas, Texas. August 2, 1990. TXD068990340.
- 2 Record of Communication. Public Supply Wells in Carrollton. From: James Stacks, FIT Chemist, Ecology and Environment, Inc. To: Al Slover, City of Carrollton Water Supply, Carrollton, Texas. August 1, 1990. TXD068990340.
- 3 Record of Communication. Regulatory Action - Francis Oil. From: James Stacks, FIT Chemist, Ecology and Environment, Inc. To: Scott Hudson, City of Carrollton, Environmental Inspection, Carrollton, Texas. August 1, 1990. TXD068990340.
- 4 Record of Communication. Sources of Drinking Water for Farmers Branch. From: Pamela Kaffka, FIT Chemist, Ecology and Environment, Inc. To: Roy Smallwood, Farmers Branch Department, Farmers Branch, Texas. January 11, 1989. TXD139218754.
- 5 Record of Communication. Water Sources for Carrollton, Texas. From: Pamela Kaffka, FIT Chemist, Ecology and Environment, Inc. To: Lanesa Johannes, Carrollton Water Systems Division, Carrollton, Texas. January 11, 1989. TXD139218754.
- 6 Record of Communication. Carrollton Well Information. From: Pamela Kaffka, FIT Chemist, Ecology and Environment, Inc. To: Bobby Ballard, Carrollton Water Pump Engineer, Carrollton, Texas. January 19, 1989. TXD139218754.
- 7 Record of Communication. Critical Habitats of Endangered Species in Carrollton and 15 Miles Downstream. From: James Stacks, FIT Chemist, Ecology and Environment, Inc. To: Dorenda Sullivan, Texas Parks and Wildlife Department, Austin, Texas. August 1, 1990. TXD068990340.
- 8 Occurrence, Availability and Chemical Quality of Ground Water in the Cretaceous Aquifers of North-Central Texas. Texas Department of Water Resources. April 1982.
- 9 Letter. Surface Water Intakes for City of Dallas. From: Rene Caraveo, Environmental Inspector Supervisor, City of Dallas Watershed Management. To: Pamela Kaffka, FIT Chemist, Ecology and Environment, Inc. January 26, 1989.
- 10 1980 Census of Population, Number of Inhabitants, Texas. U.S. Department of Commerce, Bureau of the Census.

- 11 County and City Data Book, 10th Edition. U.S. Department of Commerce, Bureau of the Census. 1983.
- 12 Case File. U.S. Bankruptcy Court, Northern District, Dallas Division, Dallas, Texas. Case File Number 389-35888-RCM-7.
- 13 Deed. Dallas County Deed Records, Dallas, Texas. Volume 88001, pp. 3915-3916. January 4, 1988.
- 14 Record of Communication. Francis Oil Corporate Record. From: James Stacks, FIT Chemist, Ecology and Environment, Inc. To: Office of Texas Secretary of State, Corporate Records, Austin, Texas. May 22, 1990. TXD068990304.
- 15 U.S.G.S. 7.5 Minute Series Topographic Maps. Lewisville East, TX, 1969, Photorevised 1981; Hebron, TX, 1960, Photorevised 1968 and 1973; Carrollton, TX, 1959, Photorevised 1981; Addison, TX, 1959, Photorevised 1968 and 1973; Irving, TX, 1959, Photorevised 1981; Dallas, TX 1958, Photorevised 1981.
- 16 Dallas County Plat Maps. Dallas, Texas.

RECORD OF COMMUNICATION	(Record of Item Checked Below)	
	<input checked="" type="checkbox"/> Phone Call <input type="checkbox"/> Discussion <input type="checkbox"/> Field Trip <input type="checkbox"/> Conference <input type="checkbox"/> Other(Specify) _____	
To: Katy McKain City of Dallas Water Utilities Planning Department (214) 670-5245	From: James Stacks, FIT Chemist 	Date: 8-2-90 Time: 9:30 a.m.
SUBJECT: Population Served by Dallas Water System		
SUMMARY OF COMMUNICATION		
Ms. McKain said that the total population served by the City of Dallas Water System, including populations served by surrounding municipalities to which water is sold, is 1,578,828 people. 		
CONCLUSIONS, ACTION TAKEN OR REQUIRED		
INFORMATION COPIES TO:		

RECORD OF COMMUNICATION	(Record of Item Checked Below) <input checked="" type="checkbox"/> Phone Call <input type="checkbox"/> Discussion <input type="checkbox"/> Field Trip <input type="checkbox"/> Conference <input type="checkbox"/> Other(Specify)	
	To: Al Slover City of Carrollton Water Department (214) 466-3120	From: James Stacks FIT Chemist <i>James Stacks</i>
	Date: 8-1-90	
	Time: 10:00 a.m.	
SUBJECT: Pubic Supply Wells in Carrollton		
SUMMARY OF COMMUNICATION		
Mr. Slover stated that the only well in use was the well on Columbian near Kelly. It is 2,475 feet deep. The pump is set near the bottom. The water level in the well is unknown, but a test is scheduled this year to determine it. The well has been used to supplement Carrollton water supply several times this year.		
CONCLUSIONS, ACTION TAKEN OR REQUIRED		
INFORMATION COPIES TO:		

RECORD OF COMMUNICATION	(Record of Item Checked Below) <input checked="" type="checkbox"/> Phone Call <input type="checkbox"/> Discussion <input type="checkbox"/> Field Trip <input type="checkbox"/> Conference <input type="checkbox"/> Other(Specify)	
	To: Scott Hudson City of Carrollton Environmental Inspector (214) 466-3060	From: James Stacks FIT Chemist	Date: 8-1-90 Time: 12:00 p.m.
SUBJECT: Francis Oil Company, Inc. - Regulatory Action		
SUMMARY OF COMMUNICATION		
<p>Mr. Hudson said no official regulatory action was ever taken against Francis Oil by the City of Carrollton, but several inspections revealed over three feet of fuel standing in the Underground Storage Tank (UST) monitoring well. The ground water level in the monitoring wells in the area is less than ten feet from the surface. He recommended Mike Delaney with Texas Water Commission (TWC) in Duncanville be contacted for information. Mr. Delaney participated in one of the inspections.</p>		
CONCLUSIONS, ACTION TAKEN OR REQUIRED		
INFORMATION COPIES TO:		

REFERENCE: 4

[illegible]

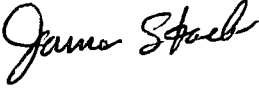
TO: SAC, NEW YORK

REFERENCE: 5

<p>RECORD OF COMMUNICATION</p>	<p>(Record of Item Checked Below) <input checked="" type="checkbox"/> Phone Call <input type="checkbox"/> Discussion <input type="checkbox"/> Field Trip <input type="checkbox"/> Conference <input type="checkbox"/> Other(Specify) </p>	
<p>TO: Lanesa Johannes Carrollton Water Systems Division (214) 466-3160</p>	<p>From: Pamela Kaffka FIT Chemist</p>	<p>Date: 01/11/89 Time: 1540 hours</p>
<p>SUBJECT Water Sources for Carrolllton, Texas</p>		
<p>SUMMARY OF COMMUNICATION</p>		
<p>Ms. Johannes was asked what sources Carrolllton used for drinking water, the</p>		
<p>well and intake locations, and if any water quality reports were available.</p>		
<p>Carrolllton's water sources are one well near Kelly Blvd. on Columbian</p>		
<p>Club with a pump and the City of Dallas. Carrolllton has a new pump at 2150</p>		
<p>Old Denton Road. The City's well is used only during peak periods in</p>		
<p>the summer months. All other water comes from the City of Dallas.</p>		
<p>The City of Carrolllton has no waste water treatment plants. Ms. Johannes</p>		
<p>said that no water quality tests were run; therefore, no reports were</p>		
<p>available.</p>		
<p> </p>		
<p> </p>		
<p> </p>		
<p> </p>		
<p> </p>		
<p> </p>		
<p> </p>		
<p> </p>		
<p>CONCLUSIONS, ACTION TAKEN OR REQUIRED</p>		
<p> </p>		
<p> </p>		
<p> </p>		
<p>INFORMATION COPIES TO:</p>		

REFERENCE: 6

RECORD OF COMMUNICATION	(Record of Item Checked Below) <input checked="" type="checkbox"/> Phone Call <input type="checkbox"/> Discussion <input type="checkbox"/> Field Trip <input type="checkbox"/> Conference <input type="checkbox"/> Other(Specify)	
TO: Bobby Ballard, Carrollton Water Pump Engineer (214) 323-0817	From: Pamela Kaffka, FIT Chemist	Date: 01/19/89
		Time: 14:30
SUBJECT: Carrollton Well Information		
SUMMARY OF COMMUNICATION		
Mr. Ballard was asked at what depth the Carrollton well was and which aquifer was used.		
Mr. Ballard replied that the City's well was drilled to a depth of 2500 ft, but that the pump is presently seated at 1000 ft. This is to allow for deeper seating if future water table levels require it. The aquifer used for this well is the Trinity Sands aquifer.		
CONCLUSIONS, ACTION TAKEN OR REQUIRED		
INFORMATION COPIES TO:		

RECORD OF COMMUNICATION	(Record of Item Checked Below)		
	<input checked="" type="checkbox"/> Phone Call	<input type="checkbox"/> Discussion	<input type="checkbox"/> Field Trip
	<input type="checkbox"/> Conference <input type="checkbox"/> Other(Specify) _____		
To: Dorenda Sullivan Texas Parks and Wildlife Department Austin, TX (512) 448-4311	From: James Stacks FIT Chemist 	Date: 8-1-90	
		Time: 3:00 p.m.	
SUBJECT: Critical Habitats of Endangered Species in Carrollton			
SUMMARY OF COMMUNICATION			
<p>From the latitude and longitude, Ms. Sullivan determined only one possible critical habitat in the area near Southwestern Medical School.</p> <p>Upon close inspection, the area of concern is greater than 15 stream miles from the site.</p>			
CONCLUSIONS, ACTION TAKEN OR REQUIRED			
INFORMATION COPIES TO:			

GB
1025.T4
N6
Vol. 1

REFERENCE: 8

Report 269

*OCCURRENCE, AVAILABILITY, AND
CHEMICAL QUALITY OF GROUND
WATER IN THE CRETACEOUS
AQUIFERS OF NORTH-CENTRAL TEXAS*

Volume 1



TEXAS DEPARTMENT OF WATER RESOURCES

April 1982

OCCURRENCE, AVAILABILITY, AND CHEMICAL QUALITY OF GROUND WATER IN THE CRETACEOUS AQUIFERS OF NORTH-CENTRAL TEXAS

SUMMARY AND CONCLUSIONS

The study area consists of approximately 15,500 square miles (40,145 km²) and lies within the Red, Sulphur, Sabine, Trinity, and Brazos River basins. The region includes all or parts of Collin, Cooke, Dallas, Delta, Denton, Ellis, Fannin, Grayson, Hood, Hunt, Johnson, Kaufman, Lamar, Montague, Navarro, Parker, Red River, Rockwall, Tarrant and Wise Counties.

The Trinity Group of Cretaceous age is the largest and most prolific aquifer in the study area. The aquifer consists of the Antlers, Paluxy, and Twin Mountains Formations. The Antlers is a coalescence of the Paluxy and Twin Mountains in the northern part of the study area where the Glen Rose Limestone is absent. The Trinity Group aquifer ranges in thickness from about 100 feet (30 m) in the outcrop area to about 1,200 feet (366 m) near the downdip limit of fresh to slightly saline water. The transmissibility is highly variable with average values ranging from 3,700 (gal/d)/ft or 45,900 (l/d)/m in the Paluxy and in the Antlers near Sherman to over 10,000 (gal/d)/ft or 124,000 (l/d)/m in most downdip areas of the Twin Mountains and in the Antlers near Gainesville. A wide range in permeabilities is also encountered, but an overall value of 50 (gal/d)/ft² or 2,040 (l/d)/m² is average. Artesian storage coefficients range from 0.0001 to 0.00025 and specific yields range from 15 to 25 percent in the outcrop.

Chemical quality in the Trinity Group aquifer updip from the fresh to slightly saline water limit is suitable for most public supply and industrial uses. Irrigation is usually limited to the outcrop area and quality is fair for most crops. Generally, water from wells on or near the outcrop is harder than ground water downdip and it also contains high iron concentrations in some areas. The Twin Mountains Formation contains high dissolved solids in an area centered in southeastern Wise County and is generally of poor quality along the Parker and Tarrant Counties boundary line.

Yields of wells completed in the Trinity Group aquifer increase in a downdip direction with wells producing up to 1,900 gal/min (120 l/s). Yields of wells completed on or near the outcrop are low, with maximum yields of 50 gal/min (3.2 l/s) not uncommon. Wells in the Antlers and Twin Mountains Formations have much higher yield averages than wells producing from the Paluxy Formation. However, the areal extent of ground-water production is larger in the Paluxy than in the Antlers and Twin Mountains. Paluxy wells have been developed in 16 of the 20 counties as compared to only 14 counties for the Antlers and Twin Mountains.

Water-level declines have been recorded in the Trinity Group since water-level records began in the first part of the 20th century. Significant cones of depression have formed in the Antlers around Gainesville and Sherman. The large cone of depression in the Dallas-Fort Worth metroplex involves both the Paluxy and Twin Mountains. Static water levels in this area have reached the top of the Paluxy and dewatering of the aquifer has begun, while static water levels in the Twin Mountains have reached 1,000 feet (305 m) below the land surface. Declines of over 20 feet (6 m) per year is not uncommon in the area along the Dallas and Tarrant counties boundary line. The abandonment of many Trinity wells in this area has alleviated the problem somewhat, but the large quantity of ground water pumped from surrounding areas will cause a continuation of the trend in water-level declines. Diminishing yields, lowering of pumps, and high lifting costs will continue to plague ground-water users. Water levels outside the influence of heavily pumped areas are also experiencing declines, but at a slower rate.

Total pumpage for public supply, industrial, and irrigation purposes from the Antlers, Twin Mountains, and Paluxy Formations in 1976 was, respectively, 8,870 acre-feet (10.9 hm³), 38,600 acre-feet (47.5 hm³), and 10,000 acre-feet (12.3 hm³). With the additional pumpage of ground water for domestic and livestock

Table 1.—Stratigraphic Units and Their Water-bearing Properties
Yield, in gallons per minute (gal/min): small, less than 100 gal/min; moderate, 100–1,000 gal/min; large, more than 1,000 gal/min.

Era	System	Series	Group	Stratigraphic units	Approximate maximum thickness (feet)	Character of rocks	Water-bearing characteristics
Cenozoic	Quaternary	Recent		Alluvium	75	Sand, silt, clay and gravel.	Yields small to large amounts of water to wells along the Red River.
		Pleistocene		Fluvialite terrace deposits			
	Tertiary	Eocene	Wilcox		100	Fine to medium sand with silt and clay	Yields small quantities of water to wells in the eastern part of the area.
		Paleocene	Midway		150	Gray, calcareous clay, in part silty to sandy	Do.
Mesozoic	Cretaceous	Gulf	Navarro	Kemp Clay Corsicana Marl	300	Fossiliferous clay and hard limy marl	Not known to yield water to wells in the area.
				Nacatoch Sand	500	Fine sand and marl, fossiliferous	Yields small to moderate quantities of water near the outcrop.
			Taylor	Marlbrook Marl Pecan Gap Chalk Wolfe City - Ozan Formations	1,500	Clay, marl, mudstone, and chalk	Yields small quantities of water to shallow wells.
				Gober Chalk Brownstown Marl Blossom Sand Bonham Formation	700	Chalk, limestone, and marl; fine to medium sand, fossiliferous	Yields small to moderate quantities of water to wells in the northeastern part of the area; very limited as an aquifer.
			Eagle Ford		650	Shale with thin beds of sandstone and limestone	Yields small quantities of water to shallow wells.
			Woodbine		700	Medium to coarse iron sand, sandstone, clay and some lignite	Yields moderate to large quantities of water to municipal, industrial and irrigation wells.
		Comanche	Washita	Grayson Marl - Mainstreet Limestone Pawpaw Formation - Weno Limestone - Denton Clay Fort Worth - Duck Creek Kiamichi Formation	1,000	Fossiliferous limestone, marl, and clay; some sand near top	Yields small quantities of water to shallow wells.
				Edwards Limestone Comanche Peak Formation Walnut Formation	250	Limestone, clay, marl, shale, and shell agglomerates	Do.
			Trinity	Paluxy Formation	400	Fine sand, sandy shale, and shale	Yields small to moderate quantities of water to wells.
				Antlers Formation	900	Limestone, marl, shale, and anhydrite	Yields small quantities of water in localized areas.
				Glen Rose Formation	1,500		
				Twin Mountains Formation	1,000	Fine to coarse sand, shale, clay, and basal gravel and conglomerate	Yields moderate to large quantities of water to wells.
				Paleozoic rocks undifferentiated		Sandstone, limestone, shale and conglomerate	Yields small quantities of water in the western part of the area.

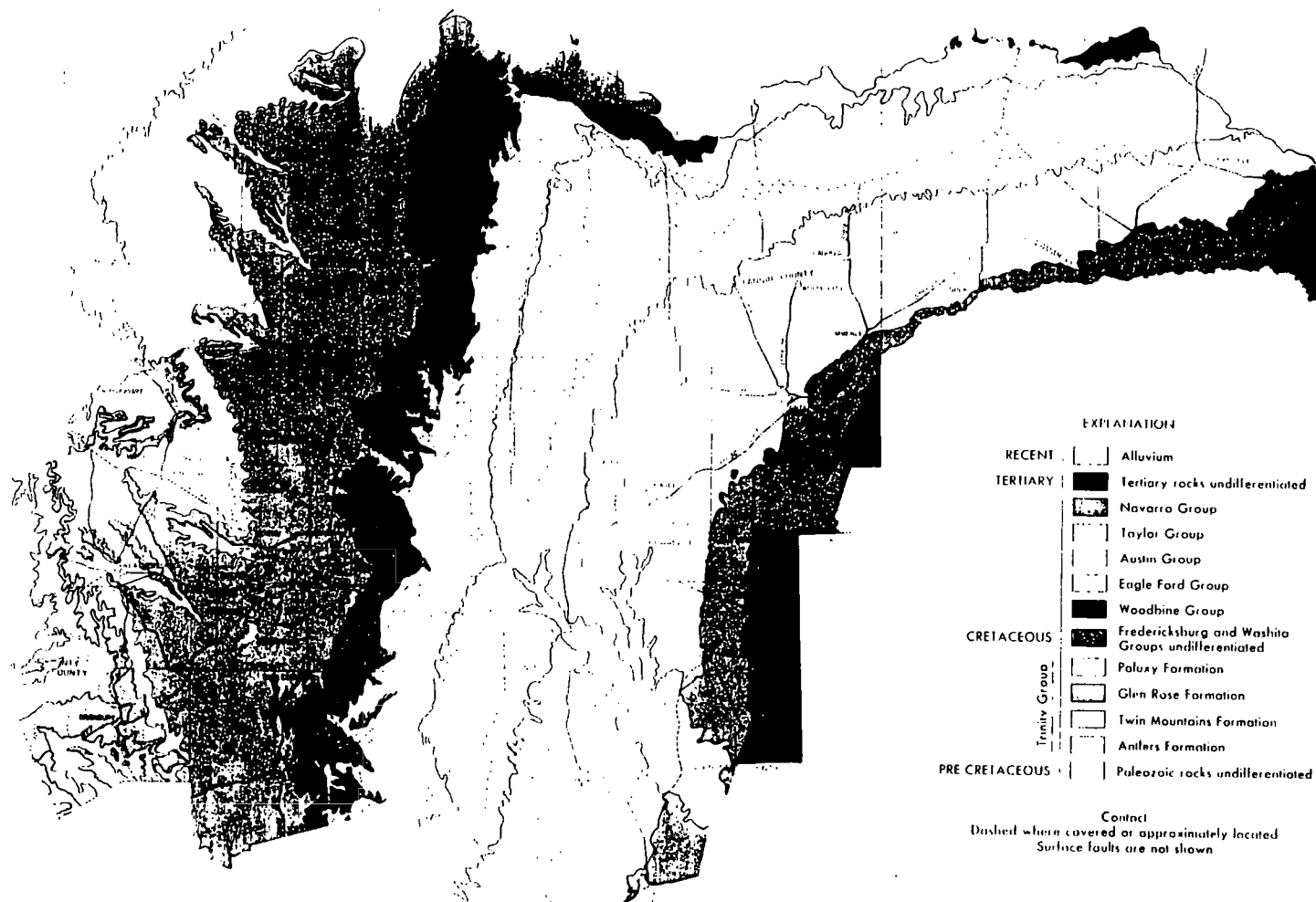


Figure 16
Geologic Outcrop Map

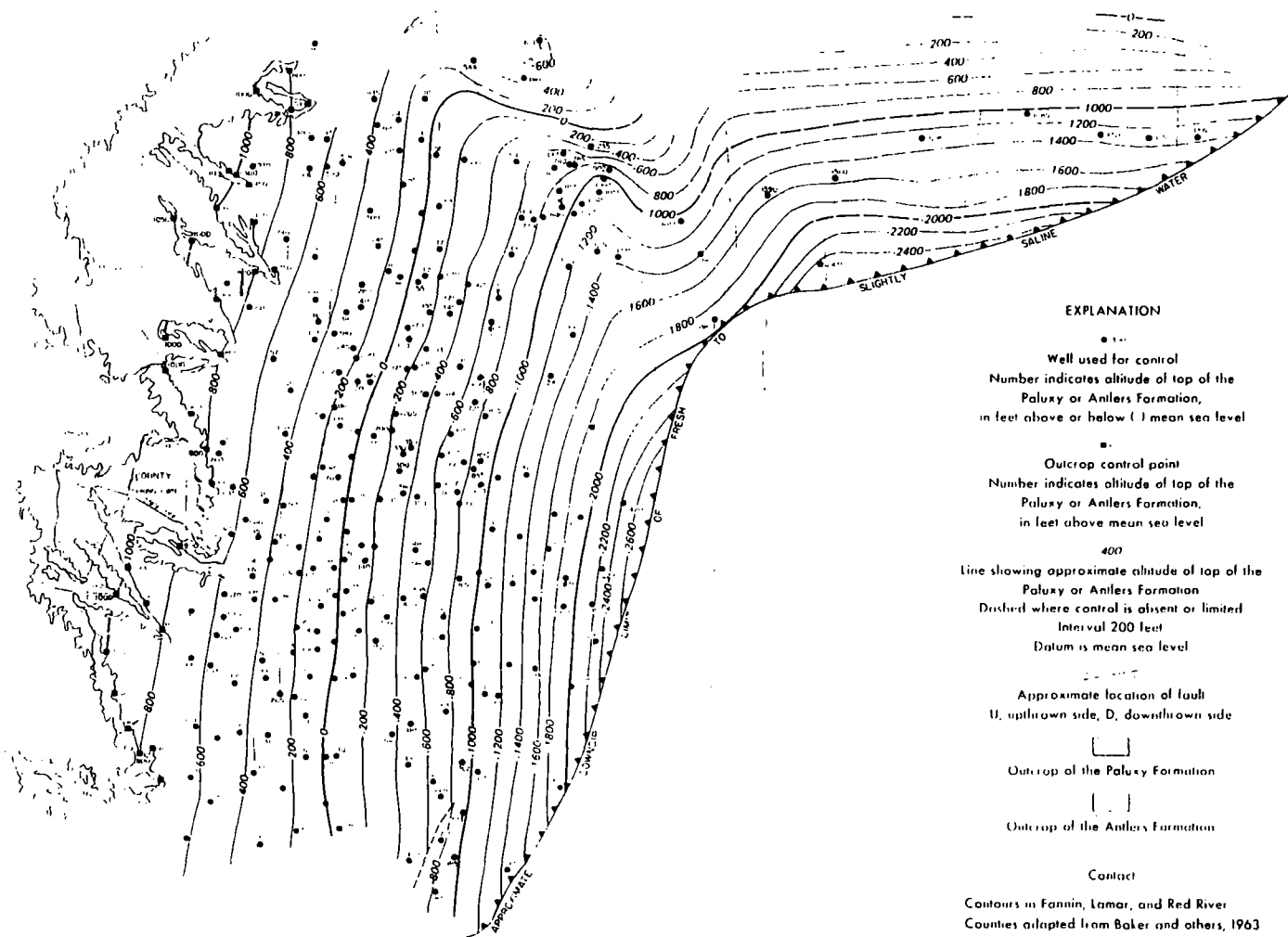


Figure 18
Approximate Altitude of the Top of the
Paluxy and Ankers Formations

GB
1025.74
116
Vol. 1 11

Report 269

*OCCURRENCE, AVAILABILITY, AND
CHEMICAL QUALITY OF GROUND
WATER IN THE CRETACEOUS
AQUIFERS OF NORTH-CENTRAL TEXAS*

Volume 2



TEXAS DEPARTMENT OF WATER RESOURCES

July 1982

DALLAS COUNTY

Table 1.--Records of Selected Water Wells--Continued

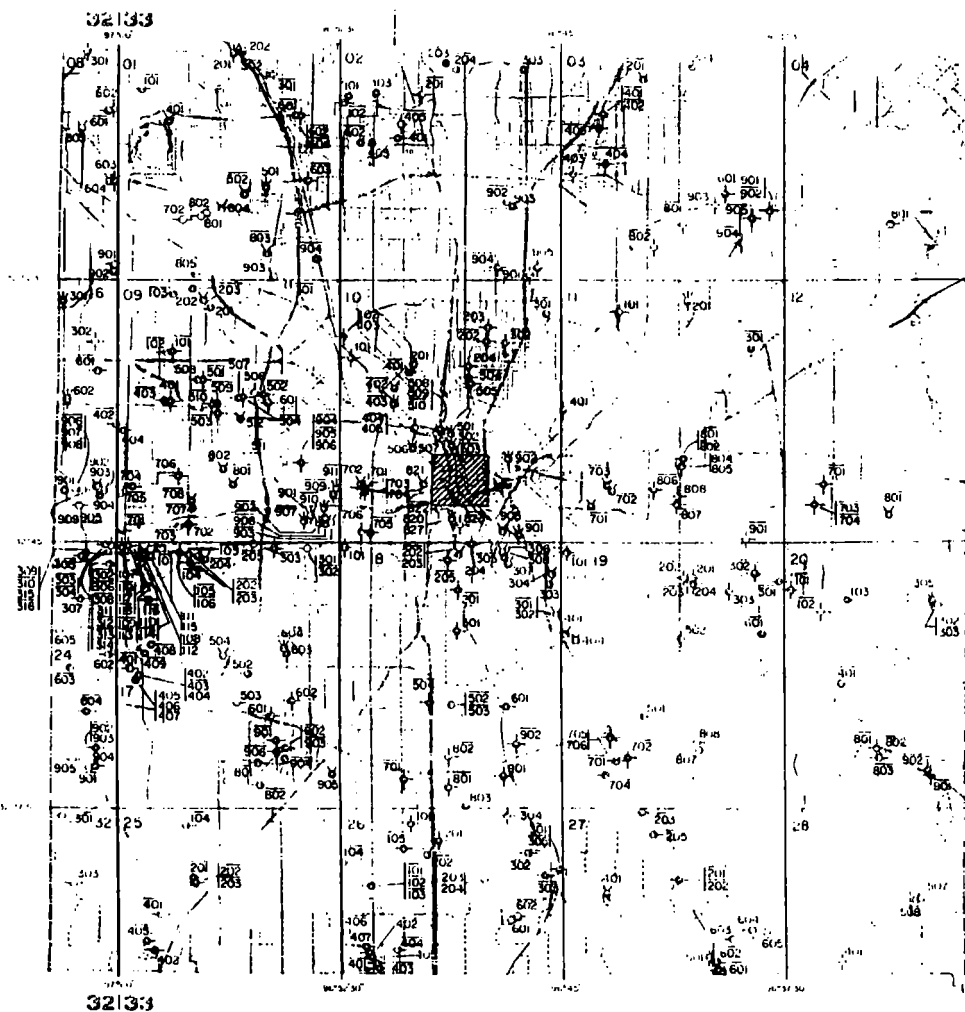
Well	Owner	Driller	Date completed	Depth of well (ft)	Casing		Water bearing unit	Altitude of land surface (ft)	Water level		Method of lift	Use of water	Remarks
					Diameter (in.)	Depth (ft)			Below land-surface datum (ft)	Date of measurement			
*DR-33-01-302	City of Dallas	Layne-Texas Co.	1957	2,275	30 20 13 9	36 1,100 1,985 2,313	Kctm	460	288 272	Mar. 16, 1957 Apr. 8, 1957	T, E 800	P	Screened from 1,990-2,025 and 2,040-2,200 ft. Pump set at 1,000 ft. Drawdown 160 ft on Mar. 16, 1957 pumping 1,739 gal/min. Temp. 100°F. <u>1 2</u>
* 401	Dallas Power and Light Co.	J. L. Myers Sons	1958	1,144	8 4	1,009 1,144	Kcpa	505	230	Mar. 5, 1958	S, E 15	P	Cemented to 1,009 ft. Screened from 1,009-1,040; 1,065-1,090; and 1,112-1,132 ft. Underreamed. Gravel packed. Pump set at 400 ft. Pumping level 260 ft at 76 gal/min when drilled. Reported yield in 1975 is 75 gal/min. <u>1 2</u>
501	J. Fred Smith Gravel Co.	do	1959	515	9 7	20 447	Kgw	430	90	July 2, 1959	N	N	Cemented to 20 ft. Perforated from 440-447 ft. Reported yield 100 gal/min. Plugged. <u>1</u>
* 502	Freeway Ready Mix, Inc.	A. B. Holpkemeier Drilling Co.	1968	550	4 2	454 550	Kgw	437	90	Oct. 16, 1968	S, E 1	Ind	Cemented to 454 ft. Slotted plastic from 450-550 ft. Pump set at 189 ft. Reported yield 35 gal/min. Gun perforated from 380-391 and 425-434 ft. Temp. 74°F. <u>1 2</u>
* 601	City of Carrollton	J. L. Myers Sons	1948	2,338	10 7 5	700 2,201 2,338	Kctm	500	150 434.0	1953 Oct. 30, 1970	T, E 100	P	Screened from 2,201-2,338 ft. Pump set at 650 ft. Reported yield 525 gal/min. Pumping level 385 ft on Oct. 24, 1956, and 395 ft at 530 gal/min in 1955. <u>1 2</u>
* 602	do	C. H. Gardner	1929	320	6 4	314 320	Kgw	500	150	1959	N	N	Perforated from 300-320 ft. Reported yield 50 gal/min. Plugged.
* 603	City of Farmers Branch	J. L. Myers Sons	1947	558	8 6	463 558	Kgw	465	--	--	N	N	Perforated from 463-531 ft. Reported yield 85 gal/min. Plugged.
* 604	City of Carrollton	C. H. Gardner	1940	410	6 4	388 410	Kgw	500	65 150	1940 1942	N	N	Reported yield 15 gal/min. Plugged.
702	F. R. Byer Estate	Layne-Texas Co.	1955	1,164	8 4	995 1,154	Kcpa	470	226	July 20, 1955	--	D, S	Cemented to 995 ft. Screened from 1,005-1,055 and 1,090-1,120 ft. Gravel packed. Underreamed. Pumping level 352 ft at 320 gal/min. <u>1 2</u>
801	C. J. Bender	Pierce Pump Co.	1968	318	4	290	Kgw	525	92	Oct. 16, 1968	S, E 1	D	Cemented to 290 ft. Open hole. Reported yield 13 gal/min. <u>1</u>
802	do	do	1968	320	4	294	Kgw	522	92	Oct. 29, 1968	S, E 1	D	Cemented to 294 ft. Gun perforated from 242-248; 270-276; and open hole from 294-320 ft. <u>1</u>
* 803	Del-Tex Pipe Inc.	do	1970	258	4	258	Kgw	423	100	Aug. 24, 1970	S, E 1 1/2	Ind	Cemented to 258 ft. Gun perforated from 210-218; 220-224; and 245-252 ft. Pump set at 231 ft. <u>1 2</u>
804	Hydro Conduit Corporation	J. L. Myers Sons	1961	379	4 2	345 379	Kgw	435	100	Sept. 1961	S, E 1 1/2	Ind	Cemented to 345 ft. Screened from 345-365 and 367-377 ft. <u>1</u>
* 805	Blackberry Ranch	do	1955	1,187	10 6	1,040 1,187	Kcpa	495	--	--	T, E 50	P, S	Cemented to 1,040 ft. Screened from 1,040-1,155 ft. Gravel packed. Underreamed. Pumping level 320 ft at 300 gal/min when drilled. Temp. 88°F. <u>1 2</u>
903	Technical Chemical Co.	Pierce Pump Co.	1970	523	4 2	451 523	Kcpa	428	84	June 9, 1970	S, E 1 1/2	Ind	Screened from 453-459 and 489-502 ft. Gravel packed. Pump set at 252 ft. <u>1</u>
* 904	Charles S. Peeples	do	1971	31	34	31	Qal	449	12	Apr. 2, 1971	J, E 3/4	Irr	Gravel packed. Pump set at 25 ft. Drawdown 8 ft pumping 15 gal/min when drilled. Temp. 80°F. <u>1</u>
*02-101	Columbian Club	J. L. Myers Sons	1955	1,488	10 6	1,310 1,488	Kcpa	532	213.5	Feb. 10, 1955	T, E 50	P	Cemented to 1,310 ft. Screened at 13 intervals between 1,307-1,485 ft for a total of 108 ft. Underreamed. Gravel packed. Reported yield 225 gal/min.

See footnotes at end of table.

DALLAS COUNTY

Table 4.--Chemical Analyses of Water From Selected Wells--Continued

Well	Aquifer	Depth of well or sampled interval (ft)	Date of collection	Silica (SiO ₂)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO ₃)	Sulfate (SO ₄)	Chloride (Cl)	Fluoride (F)	Nitrate (NO ₃)	Boron (B)	Dissolved solids	Total hardness as CaCO ₃	Specific conductance (microhmhos at 25°C)	pH	Percent sodium	Sodium adsorption ratio (SAR)	Residual sodium carbonate (RSC)
HR-32-24-902	Kgw	446	May 5, 1975	10	--	2	1	260	--	560	84	17	2.2	2.1	--	651	9	1,020	8.4	98	17.5	8.9
32-301	Kgw	314	July 12, 1971	8	--	3	1	244	--	590	44	10	1.6	2.4	--	602	14	930	8.3	98	31.1	9.4
33-01-101	Kctm	2,028	Apr. 7, 1975	--	0.7	7	1	402	--	540	201	166	2.6	2.0	--	1,047	24	1,958	8.4	98	37.6	8.4
301	Kctm	2,318	Jan. 20, 1957	--	.0	0	56	546	0.0	257	700	330	--	--	--	1,758	230	--	--	84	15.6	.0
301	Kctm	2,318	May 7, 1957	19	--	4	1	399	--	520	228	155	1.9	--	--	1,063	16	1,700	8.7	98	46.2	8.2
302	Kctm	2,275	Mar. 18, 1957	--	.3	8	2	417	--	537	228	160	--	--	--	1,079	18	1,832	8.4	97	34.1	8.2
302	Kctm	2,275	Mar. 23, 1957	--	--	4	1	417	--	537	12	228	16.0	--	--	942	18	1,832	8.3	98	48.3	8.5
401	Kcpa	1,144	May 28, 1960	3	--	47	8	30	5.4	122	65	38	.4	.5	--	257	150	451	7.2	29	1.0	.0
502	Kgw	550	June 24, 1975	10	--	6	1	640	--	730	470	218	4.4	3.2	--	1,710	--	--	--	99	63.7	11.5
601	Kctm	2,338	Jan. 1, 1953	21	.1	18	5	343	--	--	136	153	1.0	.0	--	934	60	--	8.3	92	18.4	--
601	Kctm	2,338	Sept. 18, 1959	--	.2	3	1	355	--	537	135	153	2.0	2.4	--	960	13	1,600	8.3	87	14.3	6.4
601	Kctm	2,338	Feb. 10, 1965	--	--	5	1	359	--	530	133	158	.5	1.5	--	919	18	1,704	8.4	98	38.3	8.3
601	Kctm	2,338	Apr. 26, 1974	--	.1	11	4	398	--	520	248	154	2.3	3.9	--	1,077	45	1,971	8.2	95	26.1	7.6
602	Kgw	320	Mar. 28, 1938	14	.2	6	5	845	--	942	377	398	2.4	3.1	--	2,113	30	--	8.4	98	61.6	14.7
602	Kgw	320	Aug. 14, 1942	--	--	6	4	797	--	793	407	488	1.6	.0	--	2,093	32	--	--	98	61.6	12.3
602	Kgw	320	Mar. 6, 1951	16	--	15	8	738	--	811	345	462	3.8	2.4	--	1,987	71	--	--	96	38.2	11.8
602	Kgw	320	Jan. 1, 1953	19	.1	16	5	753	--	805	392	447	3.2	.0	--	2,140	61	--	8.0	96	42.1	--
603	Kgw	558	Dec. 16, 1953	24	.1	4	7	627	--	744	473	213	2.2	4.9	--	1,720	39	--	7.5	97	43.8	11.4
604	Kgw	410	Aug. 14, 1942	--	--	9	4	819	--	805	554	464	3.6	.0	--	2,189	37	--	--	98	57.1	12.4
604	Kgw	410	Jan. 1, 1953	19	.6	16	5	730	--	775	476	366	3.2	.0	--	2,035	61	--	8.0	96	40.8	--
803	Kgw	258	June 24, 1975	9	--	5	1	650	--	780	421	257	4.4	5.6	--	1,736	18	2,550	8.2	99	69.4	12.4
805	Kcpa	1,187	Aug. 8, 1977	16	--	2	1	256	--	509	131	18	1.3	.7	--	676	7	1,036	8.3	98	36.9	8.1
904	Qal	31	June 23, 1975	16	--	153	4	61	--	428	66	81	.4	2.4	--	592	400	950	7.7	25	1.3	.0
02-102	Kctm	2,515	Aug. 16, 1974	16	.2	4	1	390	--	525	195	142	2.2	.6	--	1,009	15	1,730	8.0	98	45.2	8.3
102	Kctm	2,515	Mar. 3, 1976	--	.3	4	1	369	--	530	169	147	2.1	2.4	--	953	15	1,796	8.5	98	42.7	8.4
201	Kctm	2,778	Oct. 1, 1971	--	--	5	2	384	--	534	183	140	2.3	2.4	--	979	19	--	8.4	98	36.7	8.3
203	Kctm	2,775	July 23, 1976	16	--	6	1	389	--	550	179	155	2.1	2.4	0.9	1,019	16	1,610	8.2	98	38.7	8.6
204	Kctm	2,786	do	19	--	6	1	386	--	550	196	141	2.1	2.4	--	1,021	16	1,610	7.8	98	38.4	8.6
402	Kctm	2,565	June 23, 1975	19	--	5	1	354	--	560	131	140	2.3	1.2	--	928	16	1,470	8.3	98	37.8	8.8
405	Kgw	690	Aug. 25, 1942	--	--	2	1	829	--	830	591	365	--	4.0	--	2,201	11	--	--	99	119.5	13.4
902	Kgw	1,047	June 17, 1975	14	--	5	1	640	--	760	399	241	4.1	2.4	--	1,678	17	2,470	8.0	99	68.3	12.1
904	Kctm	3,053	Feb. 6, 1957	17	--	5	2	390	--	504	273	104	--	.1	--	1,038	18	--	8.5	98	37.2	7.8



EXPLANATION

- Public supply well
- Industrial well
- Irrigation well
- Domestic or livestock well
- Oil or gas well
- Test hole
- Unused or abandoned well
- Solid circle indicates flowing well
- Line above well number indicates chemical analysis given in Table 4

Location of Selected Water, Oil, and Gas Wells in Dallas County

January 26, 1989

Pamela E. Kaffka
Ecology and Environment, Inc.
1509 Main St. Ste. 1700
Dallas, TX. 75201

Ms. Kaffka,

Enclosed, please find the information requested by you on January 10, 1989. We hope the info is what you are looking for.

If we can be of further assistance, please call me at 245-2946.

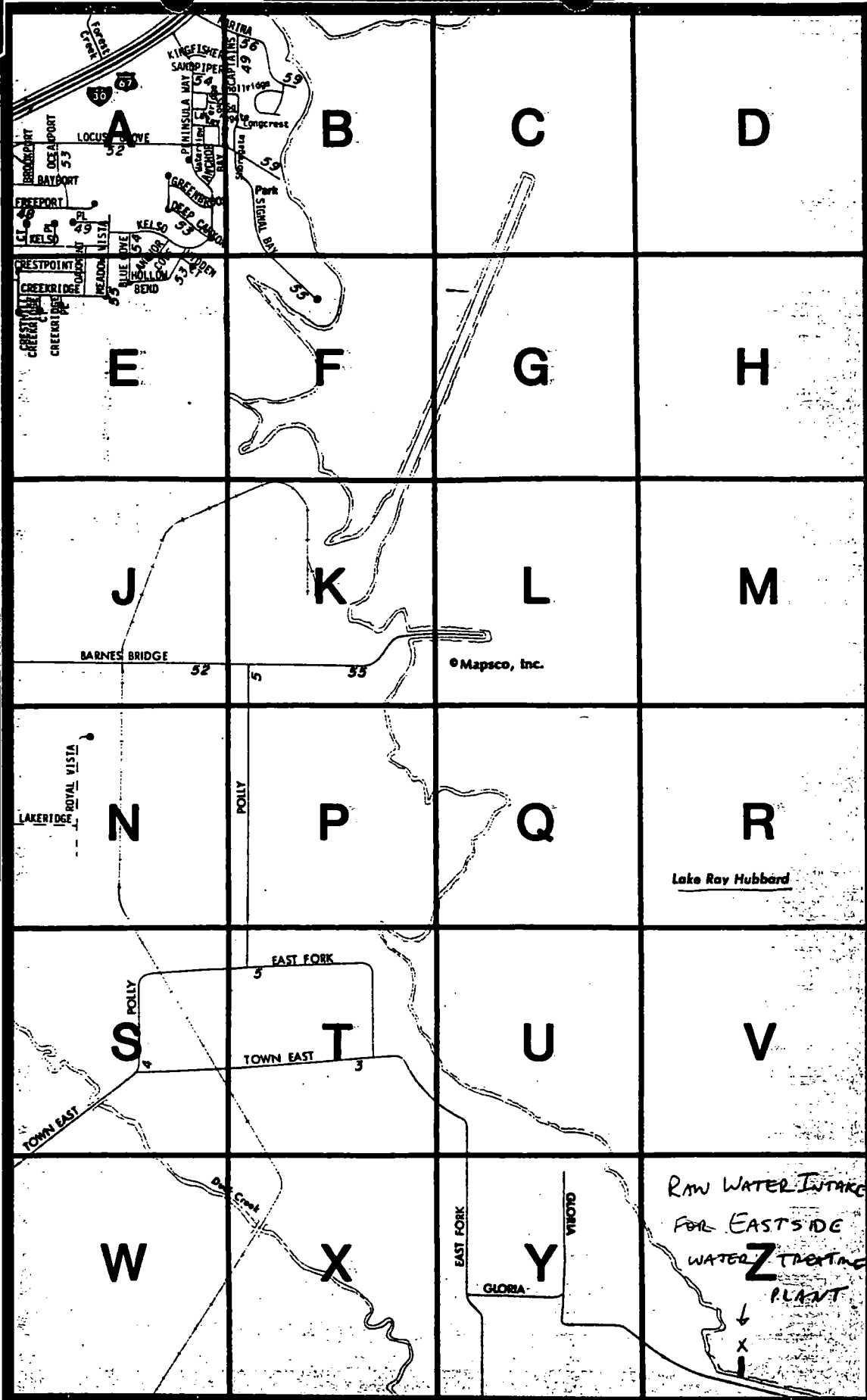
Sincerely

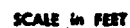
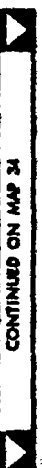
Ken Caravedo
Environment & Development Supervisor
Watershed Management

Water intakes in Dallas County

- 1) Outside Water Treatment Plant
- 2) Bachman Water Treatment Plant
- 3) Elm Fork Water Treatment Plant

These water treatment plants service 1.6 million individuals in Dallas and other customer cities. The entire service area can be served by each plant.

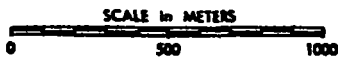
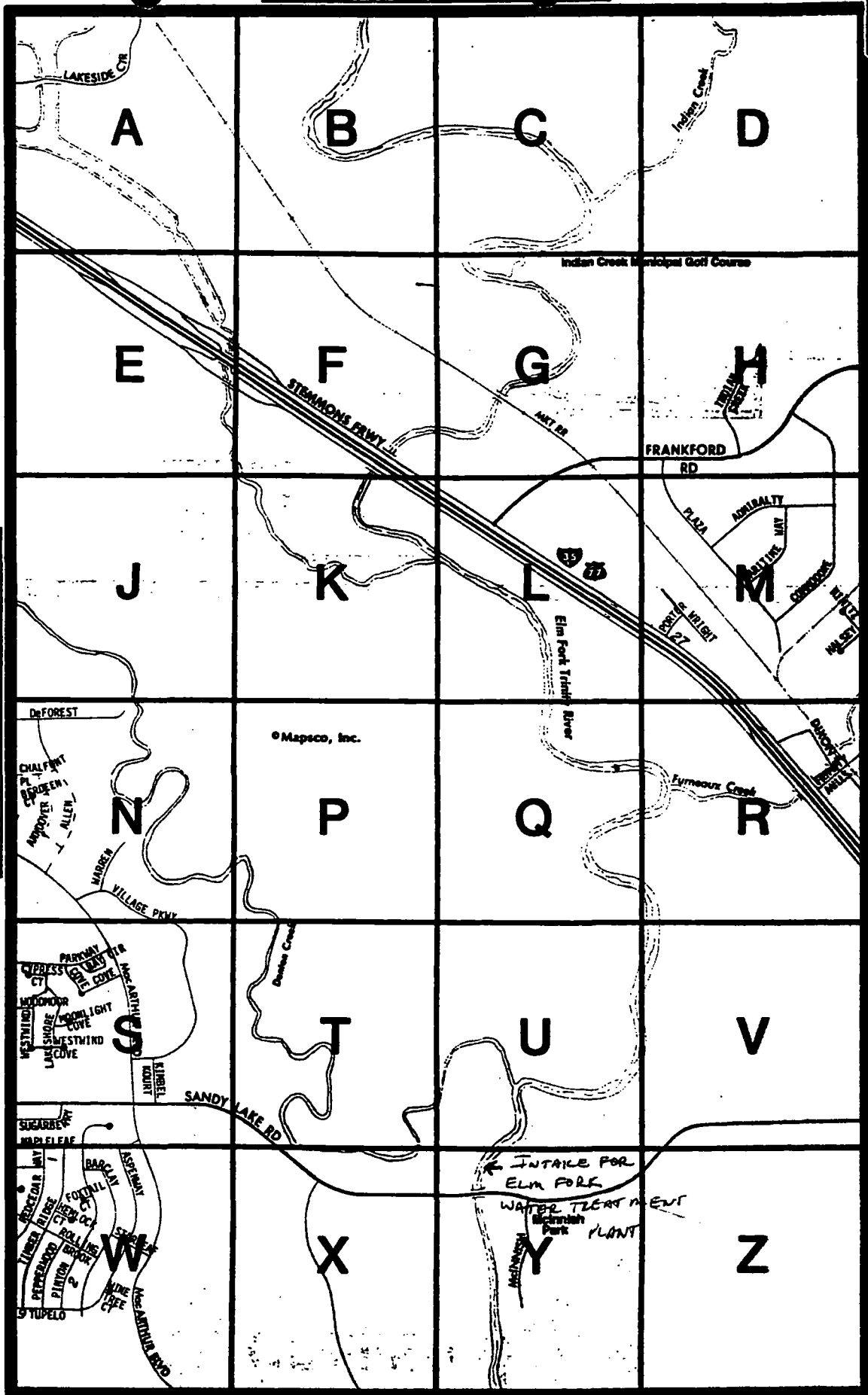




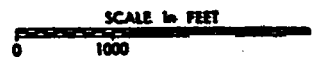


CONTINUED ON MAP 1A

CONTINUED ON MAP 2



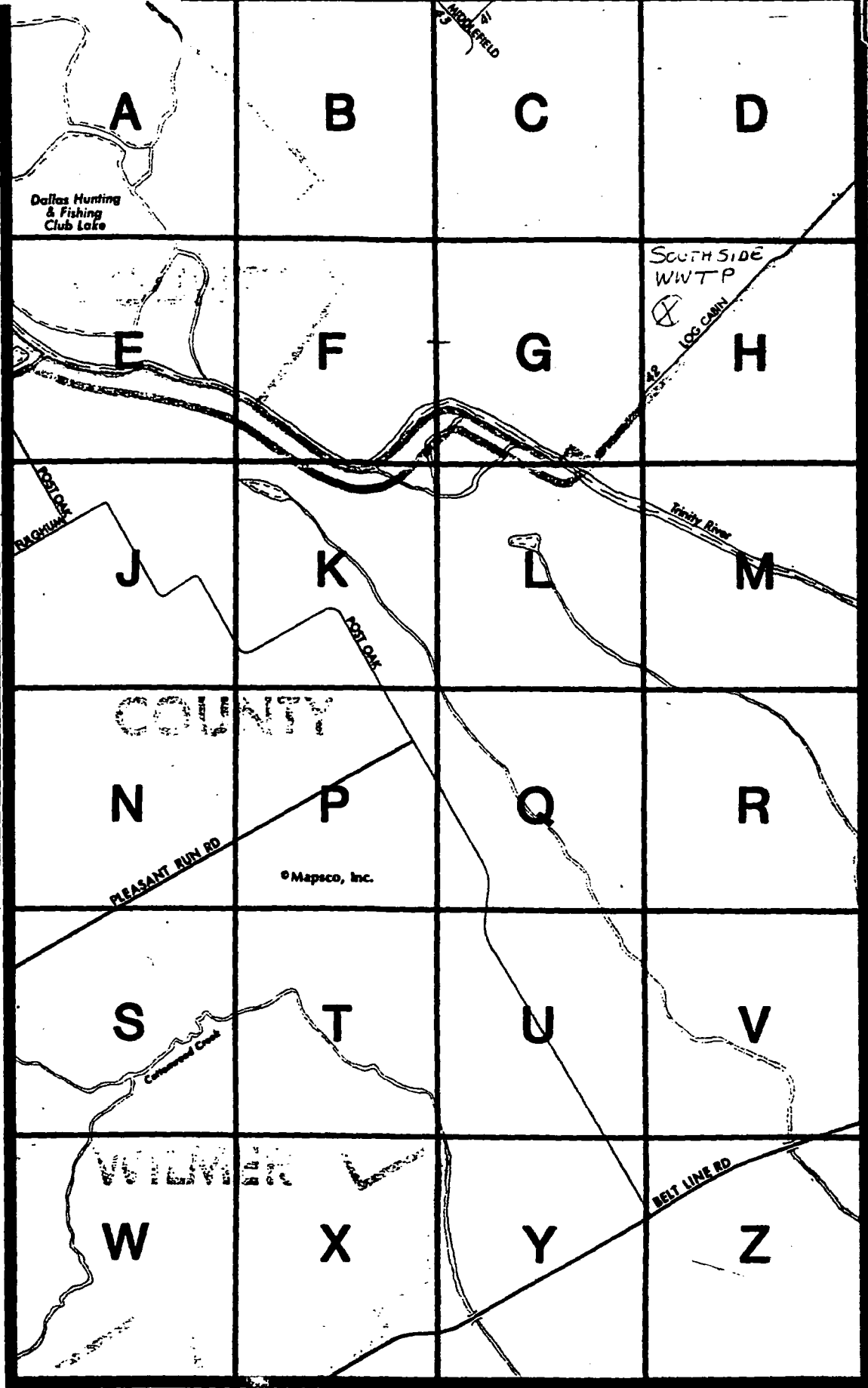
CONTINUED ON MAP 118



DETAIL MAP SECTION
STARTS ON INDEX PAGE 101

Wastewater Treatment Plants

- 1) Southside Wastewater Treatment Plant
- 2) Central Wastewater Treatment Plant

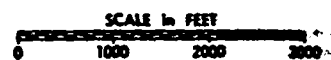


CONTINUED ON MAP 78

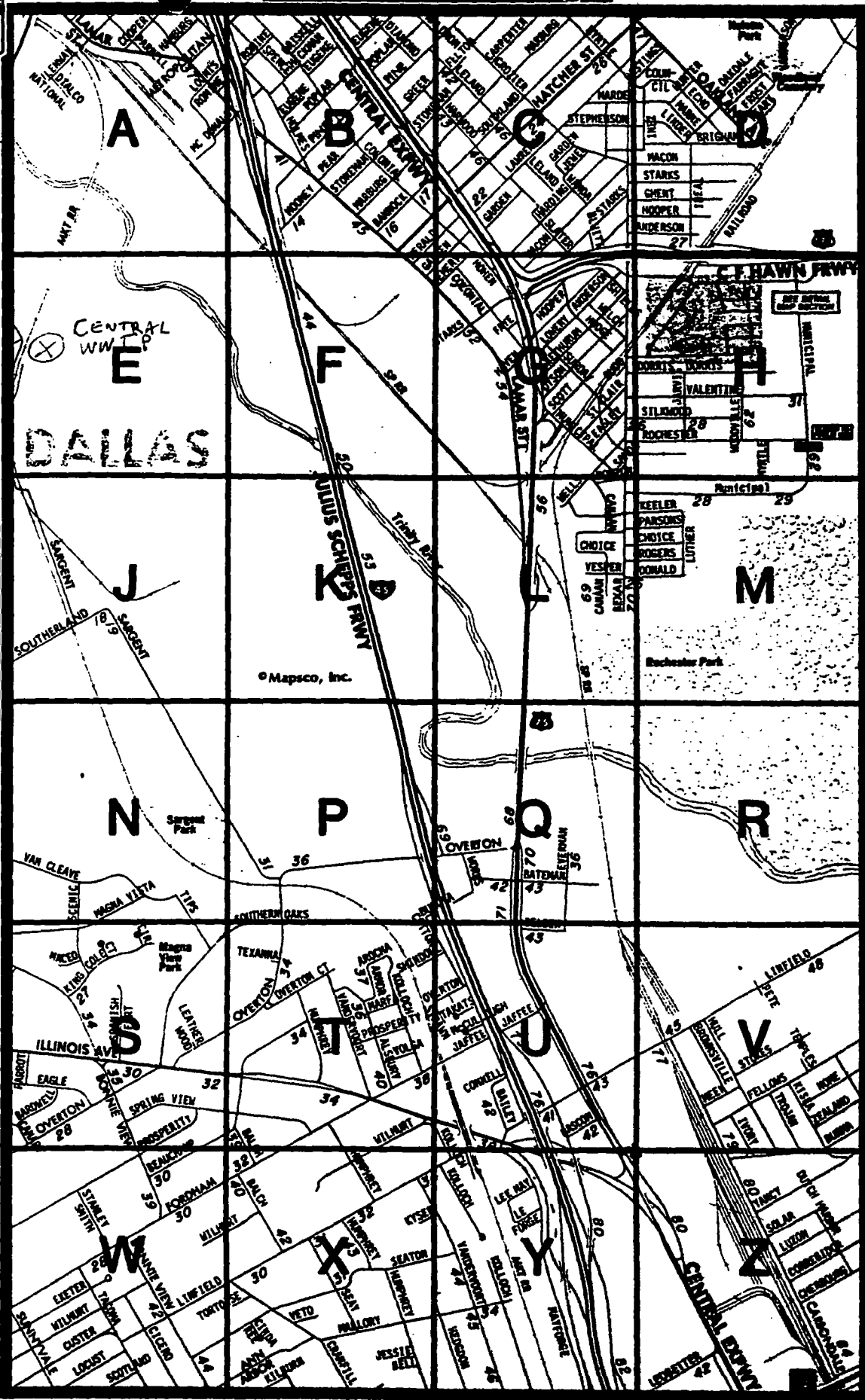
CONTINUED ON MAP 7A



CONTINUED ON MAP 89



DETAIL MAP SECTION
STARTS ON INDEX PAGE 181



CONTINUED ON MAP 55

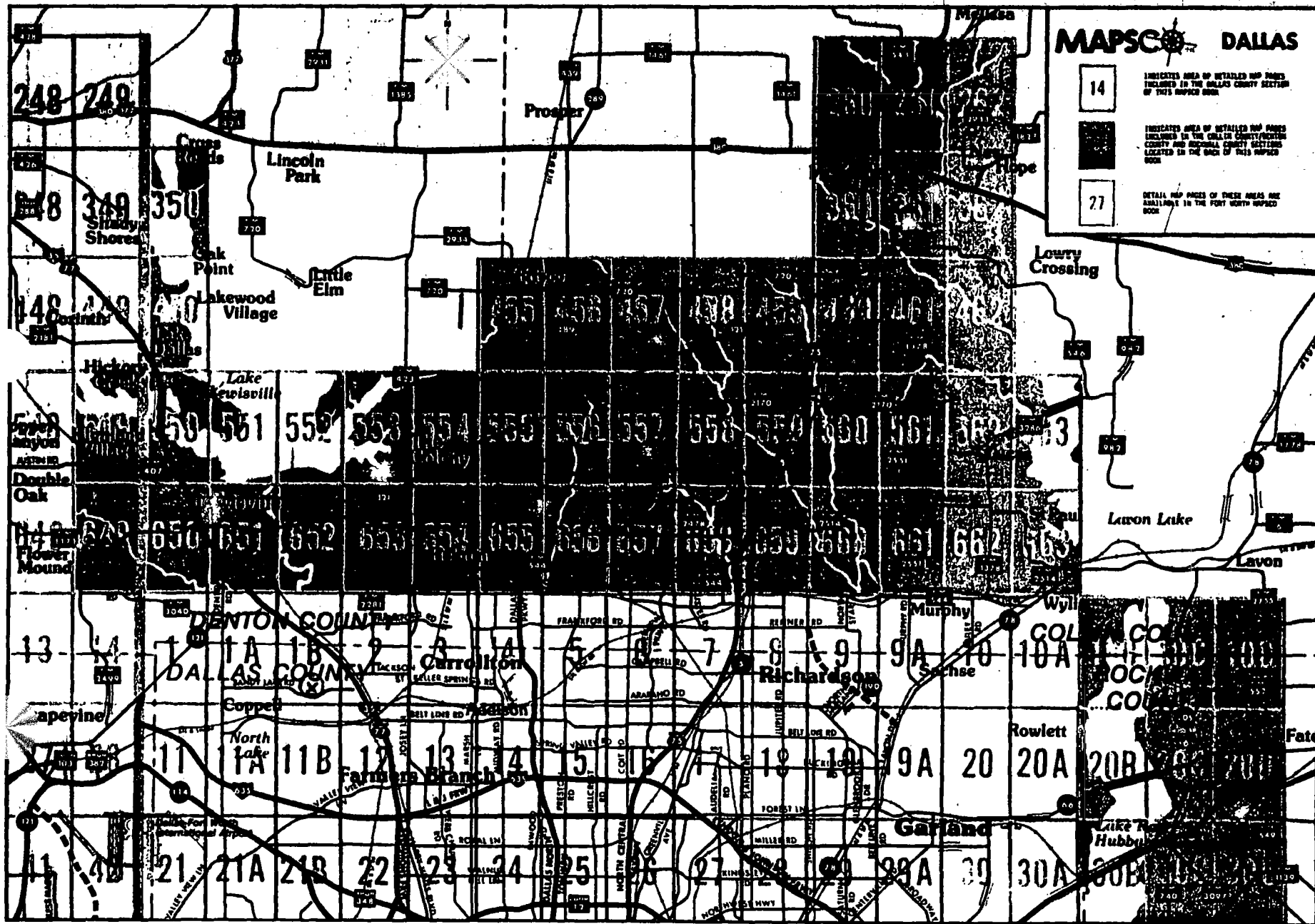
CONTINUED ON MAP 57

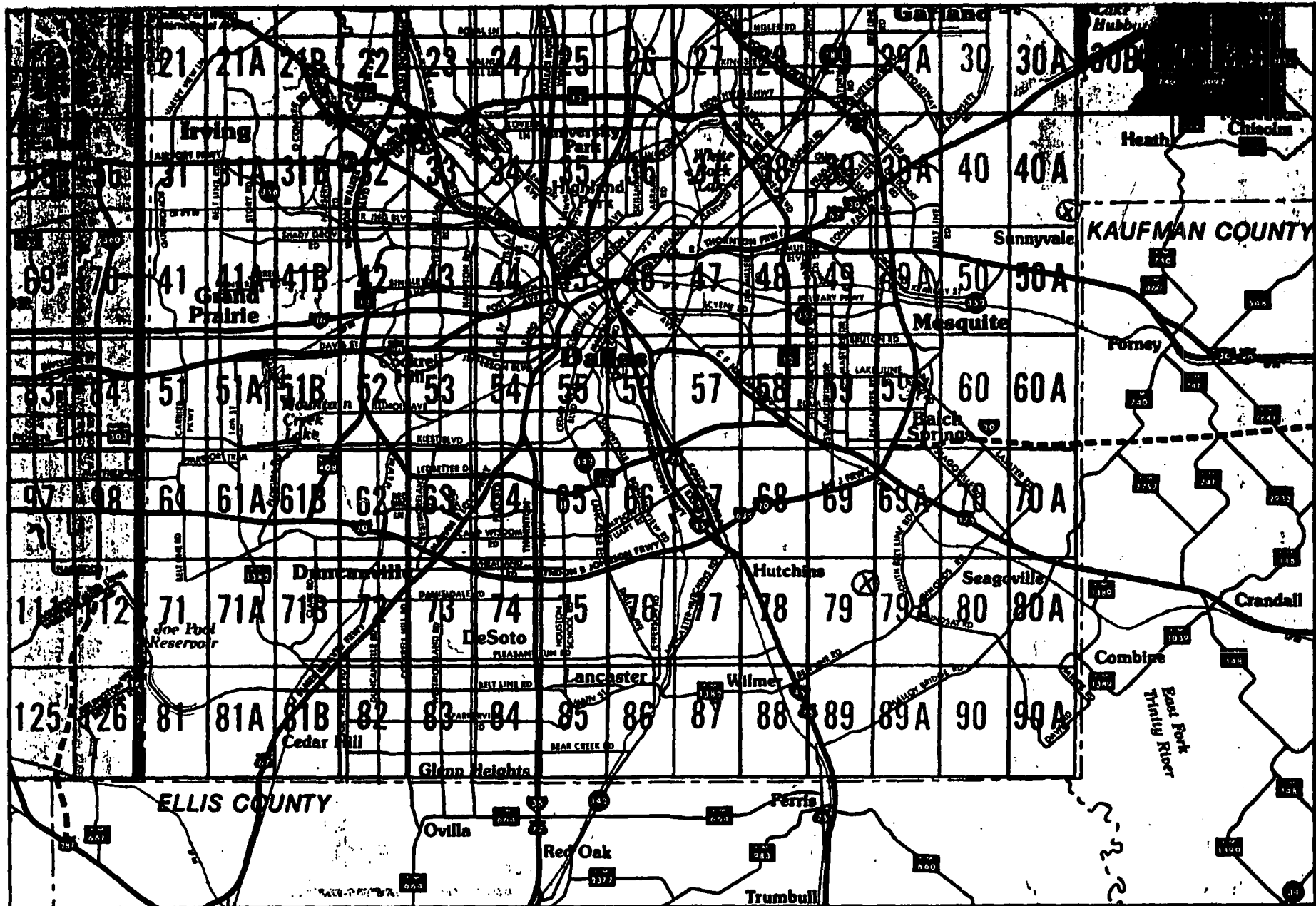
SCALE in METERS

CONTINUED ON MAP 46

SCALE in FEET

This is a smaller scale of all
3 water intakes and the 2 wastewater
treatment plants locations.





COPYRIGHT 1988 by MAPSCO, INC. - ALL RIGHTS RESERVED

SCALE: 1" = 4.39 MILES

PC80-1-A45

Tex.

HA
215.T5
1980

REFERENCE: 10 **ECOLOGY & ENVIRONMENT, INC.**

CHARACTERISTICS OF THE POPULATION

Number of Inhabitants

TEXAS

1980

Census of Population

U.S. Department of Commerce
BUREAU OF THE CENSUS

Table 4. Population of County Subdivisions: 1960 to 1980—Con.

[Total population of a place in two or more county subdivisions appears in table 3. Counts relate to county subdivisions and places as defined at each census. For meaning of symbols, see introduction.]

County Subdivisions	1980	1970	1960	County Subdivisions	1980	1970	1960
Cherokee County—Con.				Collingsworth County^a	4 648	4 753	6 276
New Summerfield division—Con.				Scammonwood division	433	568	978
Ridgely town (pt.) ^{1a}	191	114	...	Wellington division	4 215	4 187	5 298
Troup city (pt.) ^{1a}	64	62	47	Dodson town	185	239	308
Rusk division	9 627	...	...	Wellington city ^a	3 043	2 884	3 137
Goff city (pt.) ^{1a}	119	...	...	Colorado County¹	18 823	17 638	18 463
Rusk city ^{1a}	4 681	4 914	4 900	Columbus division	7 358	...	...
Wells division	1 675	...	...	Columbus city ^{1a}	3 923	3 342	3 656
Wells town	926	671	344	Eagle Lake division	5 211	...	...
Childress County	6 950	6 605	8 421	Eagle Lake city ^{1a}	3 921	3 587	3 565
Childress division	6 819	6 405	7 982	Garwood division	2 379	2 465	2 632
Childress city	5 817	5 408	6 399	Weimar division	3 875	...	...
North River division	131	200	439	Weimar city ^{1a}	2 128	2 104	2 006
Clay County²	9 582	8 079	8 351	Comal County²	36 446	24 163	19 844
Bellevue-Joy division	1 328	1 399	1 604	Comal North division	8 602	...	...
Bellevue city	352	323	309	New Braunfels division	27 844	...	...
Scotland city (pt.) ^{1a}	2	...	...	Garden Ridge city ^{1a}	647	...	...
Windthorst town (pt.) ^{1a}	8	...	...	New Braunfels city (pt.) ^{1a}	22 375	17 859	15 631
Byers-Petrolia division	2 324	2 109	2 442	Schantz city (pt.) ^{1a}	26	...	...
Byers city	556	553	497	Selma city (pt.) ^{1a}	88	...	...
Dean town (pt.) ^{1a}	43	...	...	Comanche County²	12 617	11 898	11 865
Petrolia city ^{1a}	755	584	631	Comanche division	6 816	6 480	6 110
Hennietta division	5 730	4 571	4 305	Comanche city ^{1a}	4 075	3 933	3 415
Dean town (pt.) ^{1a}	169	...	...	De Leon division	4 284	3 919	4 024
Hennietta city ^{1a}	3 149	2 897	3 062	De Leon city ^{1a}	2 478	2 170	2 022
Jolly city ^{1a}	174	...	...	Gustine division	1 517	1 499	1 731
Cochran County^{2a}	4 825	5 326	6 417	Gustine town	416	357	380
Morton division	4 034	4 604	5 409	Concho County	2 915	2 937	3 672
Morton city ^{1a}	2 674	2 738	2 731	Eden-Millerville division	1 943	1 953	2 511
Whiteface division	791	722	1 008	Eden city	1 294	1 291	1 486
Whiteface town ^{1a}	463	394	535	Eola-Point Rock division	952	984	1 161
Coke County^{1a}	3 196	3 087	3 589	Point Rock town	256	193	...
Bronte division	1 529	1 439	1 565	Cooke County^{1a}	27 656	23 471	23 560
Blackwell town (pt.)	21	13	12	Collisburg division	3 352	...	...
Bronte town ^{1a}	983	925	999	Collisburg town ^{1a}	281	...	...
Robert Lee division	1 667	1 648	2 024	Gainesville division	15 200	...	...
Robert Lee city ^{1a}	1 202	1 119	990	Gainesville city (pt.) ^{1a}	14 077	13 830	13 083
Coleman County^{1a}	10 439	10 288	12 458	Gainesville Southeast division	2 532	...	...
Coleman division	6 802	6 710	7 848	Munster division	4 026	...	...
Coleman city ^{1a}	5 960	5 608	6 371	Gainesville city (pt.) ^{1a}	4	...	...
Novice division	630	558	581	Lindsay town ^{1a}	581	435	236
Novice city	201	191	227	Munster city ^{1a}	1 408	1 411	1 190
Santa Anna division	2 156	2 066	2 402	Valley View division	2 524	...	...
Santa Anna town	1 535	1 310	1 320	Valley View town ^{1a}	514	...	...
Talpa division	851	954	1 382	Coryell County^{1a}	56 767	35 311	23 961
Talpa town	122	121	195	Copperas Cove division	21 151	...	...
Collin County^{1a}	144 576	66 920	41 247	Copperas Cove city ^{1a}	19 449	10 818	4 567
Anna division	4 213	3 180	3 101	Evad division	1 021	950	1 073
Altova town (pt.) ^{1a}	128	...	...	Evad town (pt.) ^{1a}	356	...	...
Anza city	855	736	639	Flot division	696	702	810
McKinney city (pt.) ^{1a}	9	...	...	Fort Hood division	22 678	...	...
Malissa town ^{1a}	604	...	...	Fort Hood (CDP) (pt.)	12 502	8 872	...
New Hope town (pt.) ^{1a}	99	...	...	Montague Village (CDP)	1 253	1 245	...
Wuston town (pt.) ^{1a}	393	...	...	Gatesville division	8 659	...	...
Blue Ridge division ^{1a}	2 799	1 993	1 993	Fort Gates city	777	943	...
Altova town (pt.) ^{1a}	15	...	...	Gatesville city ^{1a}	6 260	4 683	4 626
Blue Ridge town ^{1a}	442	384	330	North Coryell division	857	...	...
Westminster town ^{1a}	278	257	194	Ogleby division	1 138	1 077	1 332
Collins County^{1a}	3 643	2 972	3 018	Ogleby city ^{1a}	470	440	414
Collins division	1 520	1 272	1 204	Turnersville division	767	780	908
McKinney city (pt.) ^{1a}	...	...	...	Cottle County^{1a}	2 947	3 204	4 207
Prosper town ^{1a}	675	501	344	Paducah North division	2 608	...	...
Weston town (pt.) ^{1a}	12	...	...	Paducah town	2 216	2 052	2 392
Farmersville division ^{1a}	4 339	...	...	Paducah South division	339	...	...
Farmersville city ^{1a}	2 360	2 311	2 021	Crane County^{1a}	4 600	4 172	4 699
McKinney division	21 232	...	...	Crane North division	291	...	...
Fairview town (pt.) ^{1a}	241	(NA)	(NA)	Crane South division	4 309	...	...
Flisco city (pt.) ^{1a}	3 414	1 845	1 184	Crane city ^{1a}	3 622	3 427	3 796
McKinney city (pt.) ^{1a}	16 247	15 193	13 763	Crackert County	4 608	3 885	4 209
Nevada division	1 901	...	...	East Crackert division	4 385	3 570	...
Dallas city (pt.) ^{1a}	...	...	...	Ozona (CDP)	3 766	2 864	3 361
Garland city (pt.) ^{1a}	...	...	...	West Crackert division	223	315	...
Josephine town ^{1a}	416	296	296	Crosby County^{1a}	8 859	9 085	10 347
Lavan town ^{1a}	185	...	...	Crosby division	3 215	3 245	3 414
Rayne City city (pt.) ^{1a}	172	244	121	Crosby city ^{1a}	2 289	2 251	2 088
Pano division	101 253	1 940	659	Lorenzo division	2 132	2 203	2 686
Allen city ^{1a}	8 314	...	...	Lorenzo town ^{1a}	1 394	1 206	1 188
Carrollton city (pt.) ^{1a}	...	...	...	Rolls division	3 512	3 537	4 247
Dallas city (pt.) ^{1a}	1 357	...	...	Rolls city ^{1a}	2 422	1 962	2 229
Fairview town (pt.) ^{1a}	652	(NA)	(NA)	Carlson County^{1a}	3 315	3 429	2 794
Garland city (pt.) ^{1a}	...	...	...	Van Horn division	2 851	...	...
Lowry Crossing town (pt.) ^{1a}	106	...	...	Van Horn town ^{1a}	2 772	2 689	1 953
Lucas town ^{1a}	1 371	540	203	Van Horn Rural division	464	...	...
Murphy city ^{1a}	1 130	261	135	Dallas County^{1a}	6 531	6 012	6 302
Porter city ^{1a}	1 098	367	...	Dallhart division	5 936	5 351	5 570
Piano city (pt.) ^{1a}	72 329	17 872	3 695	Dallhart city (pt.) ^{1a}	4 571	4 340	4 494
Richardson city (pt.) ^{1a}	6 780	2 393	61	Teddlie division	595	661	732
Sachse city (pt.) ^{1a}	29	6	...	Teddlie town	477	387	430
St. Paul town ^{1a}	363	...	...	Dallas County^{1a}	1 556 390	1 327 695	951 527
Wylie city ^{1a}	3 152	2 673	1 804	Northwest division	998 454	...	...
Princeton division	5 196	3 276	2 079	Addicks city ^{1a}	5 533	593	308
Altova town (pt.) ^{1a}	126	...	...	Boch Springs city ^{1a}	13 746	10 464	6 823
Lowry Crossing town (pt.) ^{1a}	337	...	...		
McKinney city (pt.) ^{1a}	...	...	...	
New Hope town (pt.) ^{1a}	232	...	...		
Princeton town ^{1a}	3 408	1 105	594				

See footnotes at end of table.

Table 4. Population of County Subdivisions: 1960 to 1980—Con.

[Total population of a place in two or more county subdivisions appears in table 5. Counts relate to county subdivisions and places as defined at each census; symbols, see introduction]

County Subdivisions	1980	1970	1960	County Subdivisions	1980	1970
Dallas County—Con.				Denton County—Con.		
Northeast division—Con.				Pilot Point—Aubrey division—Con.		
Buckingham town ¹	159	218	239	Aubrey town ¹	948	731
Carrollton city (pt.) ¹	26 853	13 855	4 242	Cross Roads town ¹	302	...
Combine city (pt.) ¹	128	30	...	Denton city (pt.) ¹	...	...
Dallas city (pt.) ¹	597 280	(NA)	(NA)	Frisco city (pt.) ¹	...	...
Formers Branch city	24 863	27 492	13 441	Krugerville city ¹	469	...
Garland city (pt.) ¹	138 857	81 437	38 501	Lakewood Village city ¹	145	...
Highland Park town	8 909	10 133	10 411	Lincoln Park town ¹	39	...
Irving city (pt.) ¹	...	...	...	Little Elm town (pt.) ¹	926	363
Mesquite city ¹	67 053	55 131	27 524	Oak Point town ¹	187	...
Richardson city (pt.) ¹	65 716	46 012	16 749	Pilot Point town ¹	2 211	1 660
Rowlett city (pt.) ¹	6 348	2 189	1 015	Sanger division	6 466	3 836
Sachse city (pt.) ¹	1 611	771	359	Krum city (pt.) ¹	898	454
Seagoville city (pt.) ¹	7 298	4 390	745	Sanger city ¹	2 574	1 603
Sunnyvale town ¹	1 404	995	969			
University Park city ¹	22 254	23 498	23 202			
Southwest division	562 736	...	...	De Witt County¹	18 603	18 660
Carrollton city (pt.) ¹	...	...	...	Cairo division	8 381	8 092
Cedar Hill city (pt.) ¹	6 847	2 410	1 848	Cairo city ¹	7 124	6 952
Cockrell Hill city	3 262	3 515	3 104	Westhoff—Armedville division	1 861	1 884
Coppell city (pt.) ¹	3 826	1 728	666	Yockum division	3 950	4 029
Dallas city (pt.) ¹	305 339	(NA)	(NA)	Yockum city (pt.) ¹	2 325	2 454
De Soto city ¹	15 338	6 617	1 969	Yockum town	4 711	4 653
Duncanville city ¹	27 781	14 105	3 774	Yockum division	369	369
Ferris city (pt.) ¹	...	25	...	Yockum city ¹	2 498	2 411
Glen Heights city (pt.) ¹	1 008	257	...			
Grand Prairie city (pt.) ¹	65 726	47 731	29 402	Dickens County¹	3 539	3 737
Grapevine city (pt.) ¹	39	...	...	Dickens city ¹	1 353	1 402
Hutchins city ¹	2 837	1 755	1 100	Spur division	409	294
Irving city (pt.) ¹	109 943	97 260	45 985	Spur city ¹	2 186	2 135
Lancaster city ¹	14 807	10 522	7 501		1 690	1 747
Odessa city (pt.) ¹	45	...	...	
Wilmer city ¹	2 367	1 922	1 785	Dimmit County¹	11 367	9 035
				Asherton division	1 989	2 065
Dawson County¹	16 184	16 604	19 185	Asherton city	1 574	1 645
Lamesa division	12 593	...	...	Big Wells division	1 070	974
Lamesa city ¹	11 790	11 559	12 438	Big Wells city	939	711
Lamesa Northeast division	651	...	...	Comito Springs division	8 308	6 100
O'Donnell city (pt.)	124	131	113	Comito Springs city ¹	6 886	5 374
Lamesa Northwest division	963	...	...	
Lamesa Southwest division	1 169	...	...	Danley County¹	4 075	3 641
Ackerly city (pt.)	225	240	...	Clarendon division	3 172	2 666
Lamesa Southwest division	808	...	...	Clarendon city	2 220	1 974
				Howardwick city ¹	165	...
Deaf Smith County¹	21 165	18 999	13 187	Hedley division	903	972
Hereford East division	19 666	...	...	Hedley town	380	459
Hereford city ¹	13 853	13 414	7 652			
Hereford West division	1 499	...	...	Duval County¹	12 517	11 722
				Benovides division	2 756	2 866
Delta County¹	4 839	4 927	5 860	Benovides city ¹	1 978	1 841
Cooper division	3 617	3 549	4 092	Freer division	3 924	3 466
Cooper city ¹	2 338	2 258	2 213	Freer city ¹	3 213	...
Pecan Gap division	1 222	1 378	2 718	Realitos—Concepcion division	1 225	1 297
Pecan Gap city (pt.) ¹	234	270	278	San Diego division	4 612	4 099
				San Diego city (pt.) ¹	4 331	3 759
Denton County¹	143 126	75 633	47 432			
Colony division	12 785	...	...	Eastland County¹	19 480	18 092
Eastville town ¹	503	...	...	Caso division	5 479	5 170
Frisco city (pt.) ¹	85	...	...	Caso city ¹	4 517	4 160
Lewisville city (pt.) ¹	2	...	...	Eastland division	4 509	4 748
Little Elm town (pt.) ¹	...	...	...	Eastland city ¹	3 747	3 178
The Colony city (pt.) ¹	11 586	...	...	Gorman division	2 622	2 546
Denton division	50 354	...	...	Carbon town	281	264
Carrollton town (pt.) ¹	...	...	...	Gorman city	1 236	...
Denton city (pt.) ¹	47 730	39 874	26 844	Ranger division	3 689	3 578
Krum city (pt.) ¹	19	...	...	Ranger city ¹	3 142	3 094
				Rising Star division	2 181	2 046
Hebron division	14 376	...	...	Rising Star town	1 204	1 005
Carrollton city (pt.) ¹	13 741	...	...	
Dallas city (pt.) ¹	101	...	...	Ector County¹	115 374	92 660
Hebron town ¹	385	...	...	Goldsmith—Pawnee division	11 430	5 055
Lewisville city (pt.) ¹	...	...	...	Goldsmith city	409	387
Plano city (pt.) ¹	2	...	...	Odessa division	103 944	...
The Colony city (pt.)	...	...	...	Odessa city ¹	90 027	78 380
Justin—Roanoke division	8 763	...	...	
Argyle city ¹	1 111	443	...	Edwards County	2 033	2 107
Bartonville city (pt.) ¹	420	...	...	Rocksprings North division	1 491	1 445
Carroll City town ¹	85	...	...	Rocksprings town	1 317	1 221
Denton city (pt.) ¹	30	...	...	Rocksprings South division	542	662
Double Oak town (pt.) ¹	16	...	...	
Flower Mound town (pt.) ¹	967	(NA)	...	Ellis County¹	59 743	46 638
Justin city ¹	920	741	622	Emis division	16 236	...
Northlake town ¹	143	20	...	Almo town ¹	171	...
Ponder town ¹	297	208	...	Emis city ¹	12 110	11 046
Roanoke city	910	817	585	Gorman town	220	225
Southlake city (pt.)	16	3	...	Ice city (pt.) ¹	7	...
Westlake town (pt.) ¹	64	93	45	Ferris division	5 781	4 582
				Ferris city (pt.) ¹	2 228	2 155
Lewisville division	41 820	...	...	Palmers town ¹	1 187	601
Bartonville city (pt.) ¹	21	...	...	Italy division	3 021	2 918
Carrollton city (pt.) ¹	1	...	...	Italy town ¹	1 306	1 305
Coppell city (pt.) ¹	...	...	...	Millard town	681	664
Copper Canyon town ¹	465	...	...	
Carroll town (pt.) ¹	1 264	461	...	Maypearl division	1 994	1 258
Denton city (pt.) ¹	303	...	...	Maypearl city ¹	426	462
Double Oak town (pt.) ¹	820	...	...	Midlothian division	6 154	3 461
Flower Mound town (pt.) ¹	3 415	(NA)	...	Cedar Hill city (pt.) ¹	2	...
Hickory Creek town	1 422	218	...	Grand Prairie city (pt.) ¹	5	...
Highland Village city ¹	3 246	516	...	Midlothian city (pt.) ¹	3 202	2 322
Lake Dallas city ¹	3 177	1 431	...	Washburn division	26 557	...
Lewisville city (pt.) ¹	24 271	9 264	3 936	Bardwell city	335	277
Shady Shores town ¹	813	543	...	Glen Heights city (pt.) ¹	25	(NA)
				Midlothian city (pt.) ¹	17	...
Pilot Point—Aubrey division	8 342	5 732	4 000	Odessa city (pt.) ¹	1 022	339
				Red Oak city ¹	1 882	767

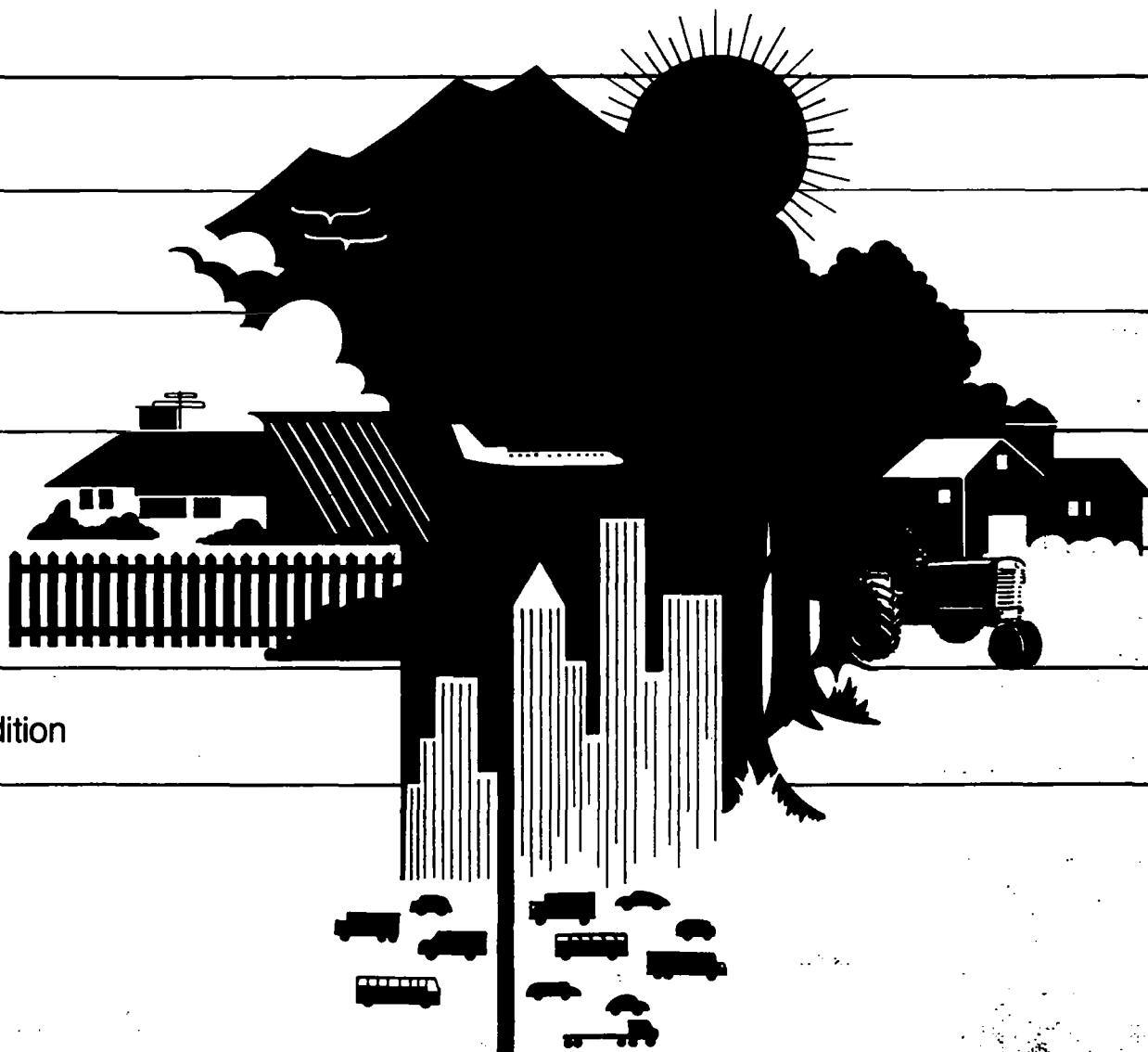
See footnotes at end of table.

NUMBER OF INHABITANTS

TEXA

County and City Data Book

1983



10th Edition

Table B. Counties — Population and Households

County	Population, 1980 (Apr. 1) — Con.							Households, 1980 (Apr. 1)						
	Born in State where now residing (Per-cent)	Age					Living in group quarters	Total	Persons per household	Family			Nonfamily	
		Percent—			18 yrs. and over	Median (Yrs.)				Total	Married couple	Female householder, no husband present	Total	One-person ¹
		Under 5 yrs.	5 to 17 yrs.	65 yrs. and over										
16	17	18	19	20	21	22	23	24	25	26	27	28	29	
TEXAS	67.8	8.2	22.0	9.6	9 923 085	28.2	340 688	4 929 267	2.82	3 677 865	3 088 473	487 382	1 251 402	1 068 518
Anderson	82.4	7.2	18.9	15.2	28 367	29.8	4 951	12 386	2.70	9 442	8 033	1 150	2 944	2 790
Andrews	64.7	10.1	23.7	7.5	8 824	26.7	90	4 423	2.99	3 668	3 314	267	755	686
Angelina	82.4	8.6	23.1	11.6	43 784	28.9	1 356	21 781	2.88	17 177	14 883	1 845	4 604	4 222
Aransas	66.4	7.4	21.0	15.1	10 207	34.6	41	5 168	2.75	4 099	3 701	289	1 069	882
Archer	80.6	7.5	21.7	13.9	5 147	32.3	43	2 644	2.73	2 099	1 929	131	545	517
Armstrong	77.0	6.8	18.7	18.9	1 485	39.0	58	750	2.59	583	552	18	167	166
Atascosa	88.1	8.9	25.8	12.0	16 417	28.4	202	8 036	3.09	6 442	5 611	617	1 594	1 526
Austin	87.9	7.3	20.7	18.8	12 753	34.4	307	6 434	2.71	4 836	4 248	426	1 588	1 512
Bailey	71.1	9.3	24.7	11.9	5 388	28.2	78	2 681	3.02	2 202	1 996	147	479	461
Bandera	77.5	5.6	19.0	18.5	5 337	41.1	139	2 802	2.48	2 062	1 853	153	740	704
Bastrop	81.6	7.8	21.2	18.2	17 661	32.2	534	8 719	2.78	6 652	5 708	732	2 067	1 930
Baylor	83.8	6.1	17.8	23.5	3 745	42.2	78	2 027	2.39	1 465	1 323	106	562	550
Bee	77.3	10.0	22.7	10.1	17 511	26.1	1 041	8 181	3.06	6 547	5 634	725	1 634	1 423
Bell	51.6	9.8	19.4	7.9	111 813	24.9	11 128	52 661	2.79	40 725	35 287	4 314	11 936	10 146
Bexar	67.7	8.5	23.6	8.7	672 227	27.1	31 888	320 839	2.98	244 770	196 752	40 100	75 869	68 115
Blanco	81.7	5.7	19.5	20.2	3 503	39.4	78	1 825	2.52	1 348	1 216	102	477	454
Borden	82.0	8.3	23.4	10.7	587	32.0	—	299	2.87	257	240	11	42	42
Bosque	84.3	5.5	16.7	26.5	10 431	44.9	388	5 513	2.38	3 942	3 551	280	1 571	1 527
Bowie	61.6	7.9	21.8	13.3	52 970	31.3	1 185	27 449	2.70	20 687	17 033	3 085	6 782	6 289
Brazoria	68.2	8.8	22.3	6.1	116 789	27.2	7 803	53 907	3.00	43 852	39 117	3 312	10 055	8 430
Brazos	69.4	6.8	15.7	6.8	72 581	22.9	9 130	32 488	2.60	19 511	16 502	2 156	12 977	7 437
Brewster	73.0	6.8	19.7	11.4	5 563	27.1	501	2 694	2.63	1 817	1 518	223	677	740
Briscoe	66.2	8.0	21.6	16.9	1 814	33.0	—	867	2.67	743	679	48	224	218
Brooks	81.2	6.6	25.1	12.2	5 587	28.4	61	2 614	3.20	2 181	1 698	381	453	440
Brown	82.7	7.3	20.5	17.3	23 855	32.3	1 550	12 308	2.56	9 052	7 866	953	3 256	3 071
Burleson	89.2	7.4	20.6	18.7	8 873	34.5	150	4 459	2.73	3 355	2 843	397	1 104	1 046
Burnet	76.3	5.8	18.9	22.7	13 400	41.5	205	6 951	2.53	5 456	4 971	385	1 495	1 441
Caldwell	81.0	7.2	24.0	14.4	16 256	27.2	2 614	7 381	2.85	5 563	4 726	650	1 788	1 671
Calhoun	80.9	6.6	24.2	8.0	13 168	28.0	126	6 489	3.01	5 220	4 617	439	1 249	1 134
Callahan	82.9	6.7	19.9	19.3	8 064	36.8	149	4 150	2.81	3 251	2 943	238	899	875
Cameron	64.9	10.4	27.9	9.6	129 327	25.0	1 885	58 418	3.56	48 796	39 827	7 434	9 622	6 754
Camp	84.3	8.2	20.6	16.3	6 601	32.7	92	3 404	2.70	2 579	2 204	295	825	790
Carson	68.1	7.8	22.3	13.4	4 668	32.5	122	2 395	2.73	1 882	1 747	91	513	493
Cass	75.0	7.9	22.1	15.9	20 805	32.5	391	10 515	2.76	8 192	7 035	964	2 323	2 242
Castro	78.6	10.9	28.9	7.7	6 358	24.7	83	3 136	3.34	2 611	2 383	166	525	490
Chambers	72.2	9.3	23.7	7.9	12 421	27.8	58	6 248	2.96	5 116	4 566	384	1 132	1 037
Cherokee	84.9	7.1	20.4	17.6	27 829	33.9	1 789	13 827	2.67	10 142	8 608	1 228	3 485	3 239
Childress	76.2	7.3	18.4	22.3	5 167	38.7	123	2 776	2.46	1 999	1 763	186	777	748
Clay	78.5	6.5	19.6	17.9	7 080	36.3	111	3 607	2.62	2 821	2 523	214	786	760
Cochran	77.9	9.6	27.3	10.7	3 049	26.5	101	1 515	3.12	1 256	1 123	104	259	249
Coke	84.0	6.0	17.4	23.9	2 450	44.3	86	1 257	2.47	955	862	67	302	291
Coleman	85.0	6.8	17.7	25.6	7 888	42.4	196	4 243	2.41	3 040	2 656	305	1 203	1 173
Collin	55.8	8.7	26.5	6.6	93 820	28.2	1 438	46 373	3.08	39 140	35 112	3 088	7 233	6 308
Collingsworth	73.1	7.1	21.3	21.4	3 328	35.4	71	1 790	2.56	1 295	1 140	120	495	479
Colorado	87.7	7.4	19.8	17.5	13 703	34.4	327	6 938	2.67	5 114	4 373	569	1 824	1 707
Comal	74.2	6.6	20.9	14.8	26 427	34.2	516	12 958	2.77	10 377	9 298	829	2 581	2 342
Comanche	85.8	6.1	18.7	23.8	9 484	40.7	274	4 973	2.48	3 710	3 319	296	1 263	1 223
Concho	89.2	7.4	20.2	21.8	2 111	37.5	34	1 091	2.64	821	740	60	270	260
Cooke	76.0	7.7	21.2	14.5	19 659	30.8	648	10 078	2.68	7 669	6 784	688	2 409	2 234
Coryell	33.9	6.6	18.9	5.5	41 147	22.6	13 646	14 090	3.06	11 836	10 663	932	2 254	1 876
Cottle	86.1	7.4	19.1	22.6	2 166	38.5	47	1 184	2.49	854	770	65	310	302
Crane	71.9	10.0	24.4	8.0	3 015	27.0	30	1 552	2.95	1 271	1 185	79	281	264
Crockett	76.1	9.7	24.5	9.3	3 031	27.3	31	1 558	2.93	1 219	1 094	94	339	309
Crosby	87.9	9.4	25.1	14.1	5 804	28.7	105	2 920	3.00	2 330	2 106	174	590	571
Cuberson	75.3	10.0	29.0	7.1	2 024	24.3	4	887	3.35	832	708	90	155	141
Dallam	57.0	9.8	23.3	12.5	4 368	29.0	—	2 386	2.74	1 774	1 552	149	612	590
Dallas	64.3	7.7	21.2	7.8	1 106 830	28.4	19 722	577 701	2.66	401 384	321 766	64 305	176 337	145 815
Dawson	85.5	9.5	23.8	13.1	10 794	29.1	102	5 483	2.93	4 394	3 919	367	1 089	1 050
Deaf Smith	73.0	11.2	27.1	8.5	13 047	25.3	152	6 487	3.24	5 433	4 837	454	1 054	981
Delta	85.1	5.0	19.9	26.4	3 633	42.7	109	1 832	2.45	1 377	1 195	143	555	541
Denton	59.0	8.0	21.1	6.4	101 450	27.0	6 926	49 134	2.77	38 973	32 887	3 162	12 161	9 319
De Witt	81.6	7.0	19.9	21.1	13 809	36.8	460	7 056	2.61	5 135	4 350	607	1 921	1 848
Dickens	86.1	7.6	20.1	22.5	2 561	38.4	33	1 369	2.56	1 004	905	72	385	381
Dimmit	76.2	10.7	28.0	10.0	6 970	24.7	147	3 135	3.58	2 650	2 221	333	485	458
Donley	78.3	6.0	17.2	21.8	3 131	39.7	160	1 608	2.43	1 204	1 099	79	404	397
Duval	91.5	9.2	25.4	13.9	8 175	28.2	177	3 738	3.30	3 074	2 519	454	664	648
Eastland	83.5	6.3	16.5	23.2	15 037	39.2	1 015	7 730	2.39	5 452	4 807	489	2 278	2 194
Ector	68.9	9.3	21.8	7.0	79 528	27.1	855	40 450	2.83	31 632	27 655	3 034	8 618	7 729
Edwards	82.4	6.7	27.2	14.8	1 305	29.7	—	697	2.92	535	469	53	162	152
Ellis	81.0	7.9	23.4	13.0	41 065	30.2	1 264	19 866	2.94	16 002	13 907	1 629	3 884	3 583
El Paso	49.9	9.4	25.9	6.6	310 909	25.0	12 468	140 806	3.32	114 454	92 888	17 987	26 352	22 854
Erath	81.7	6.5	18.8	19.8	17 322	32.6	1 292	8 699	2.44	6 174	5 529	488	2 525	2 204

¹Householder living alone.

CASE FILE U.S. BANKRUPTCY COURT
NORTHERN DISTRICT, DALLAS DIVISION
1100 COMMERCE STREET
DALLAS, TEXAS
CASE FILE NUMBER 389-35888-RCM-7

The State of Texas.**REFERENCE: 13****Know All Men by These Presents:**

County of Dallas

That I, GERALD E. BRIDGES

A

5257

2

5.00 DEED
2 01/15/88

of the County of

Cooke

State of

Texas

for and in consideration

of the sum of

TEN AND NO/100-----

-----(\$10.00)-----

-----DOLLARS

and other good and valuable consideration;
to me in hand paid by Grantee, JOHN W. FRANCIS

as follows:

have Granted, Sold and Conveyed, and by these presents do Grant, Sell and Convey unto the said

JOHN W. FRANCIS

of the County of

Dallas

State of

Texas

those
all that certain

tracts of land described as follows:

Being Lots ONE (1), TWO (2) and THREE (3) in Block "B" of CARROLLTON ANNEX, an Addition to the City of Carrollton, Dallas County, Texas, according to the Map or Plat thereof recorded in Volume 3, Page 235, Map Records, Dallas County, Texas.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said Grantee,

JOHN W. FRANCIS, his heirs and assigns forever and I do hereby bind myself, my heirs, executors and administrators, to Warrant and Forever Defend, all and singular the said premises unto the said Grantee, his

heirs and assigns, against every person whomsoever lawfully claiming, or to claim the same, or any part thereof, by, through, and under Grantor but not otherwise.

WITNESS hand
this 30 day of December 1987 Lewisville, Texas

Witnesses at Request of Grantor:

Christina Rose Cox
CHRISTINA ROSE COXGerald E. Bridges
GERALD E. BRIDGESHeidi Dillebourne
Heidi Dillebourne

88001 3815

Mailing address of grantee:

Address:

(Acknowledgment)

STATE OF TEXAS
COUNTY OF DENTON

This instrument was acknowledged before me on the 14th day of December, 1987
by ORBALD B. BRIDGES

My commission expires:

12/31/1989

Notary Public, State of Texas

Notary's printed name: BARBARA LEWIS

(Acknowledgment)

STATE OF TEXAS
COUNTY OF

This instrument was acknowledged before me on the _____ day of _____, 19____
by _____

My commission expires:

Notary Public, State of Texas

Notary's printed name:

STATE OF TEXAS COUNTY OF DALLAS
I hereby certify that this instrument was filed on the
date and time stamped herein by me and was duly re-
corded in the volume and page of the indexed records
of Dallas County, Texas as stamped herein by me.

(Acknowledgment)

STATE OF TEXAS
COUNTY OF

This instrument was acknowledged before me on the _____ day of _____, 19____
by _____

My commission expires:

Notary Public, State of Texas

Notary's printed name:

JAN 4 1988



Earl Bullock
COUNTY CLERK, Dallas County, Texas

Warranty Deed

FROM

TO

FILED FOR RECORD

This _____ day of _____, A.D. 19____

at _____ o'clock _____ M.

County Clerk.

By _____ Deputy

RECORDED

A.D. 19____

County Records

in Book _____ on Page _____

County Clerk.

By _____ Deputy

Recording Fee \$ _____

This instrument should be filed immediately with the
County Clerk for record.

WHEN RECORDED RETURN TO

Stewart Title

14900 Landmark Blvd.

Suite 100, LB 6

Dallas, Texas 75240

The Odor Company, Dallas, TX 75238

PROVISIONS CONTAINED IN ANY DOCUMENT WHICH RESTRICT
THE SALE, RENTAL, OR USE OF THE REAL PROPERTY DESCRIBED
THEREIN BECAUSE OF RACE OR COLOR ARE INVALID UNDER
FEDERAL LAW AND ARE UNENFORCEABLE.

ANY PROVISION HEREIN WHICH RESTRICTS THE SALE, RENTAL,
OR USE OF THE DESCRIBED REAL PROPERTY BECAUSE OF COLOR,
OR RACE IS INVALID AND UNENFORCEABLE UNDER FEDERAL
LAW.

88 JAN -4 AM 10:38

FILED
COUNTY CLERK
DALLAS COUNTY
Earl Bullock

88001 3816

EPA FORM 1300-6 (7-72)
Replaces EPA HQ Form 5300-3 which may be used until Supply is Exhausted.

**This Document Contained
Material Which Was Not
Film/Scanned**

Title Reference 15 USGS Topographic
Map (oversized Document)


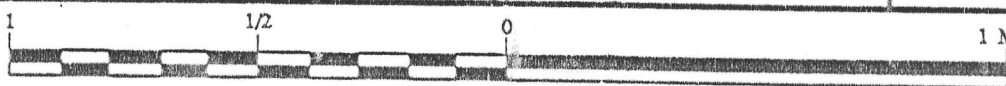

**Please Refer to the File in
Superfund Records Center**



REFERENCE: 15

LEGEND

ROAD CLASSIFICATION
Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt ———
○ Interstate Route □ U. S. Route ○ State Route

 ecology & environment, inc.		Site Name: Francis Oil Location: Carrollton, Tx. Site ID: TX 0068990340	
USGS TOPOGRAPHIC MAPS			
Name: Lewisville East, Tx. Date: 1960 Revised: 1981 Contour Interval: 10'		Name: Hebron, Tx. Date: 1960 Revised: 1968 & 1973 Contour Interval: 10'	
Name: Carrollton, Tx. Date: 1959 Revised: 1981 Contour Interval: 10'		Name: Addison, Tx. Date: 1959 Revised: 1968 & 1973 Contour Interval: 10'	
Name: Irving, Tx. Date: 1959 Revised: 1981 Contour Interval: 10'		Name: Dallas, Tx. Date: 1958 Revised: 1981 Contour Interval: 10'	
		Quadrangle Location	
		 TEXAS	

(b) (6)

PARKSIDE HOMES ADD.

ARROLLTON
SHEET 10-E

46 125EE

WITH

BLANTON

A·D·D'·N

AVE

541103

DALLAS

& DENTON

R D. ^{(b) (6)} ^{(b) (7)(C)} Vol 337-622 BROADWAY

H L E F

工
十
又
一

ST

ELM

ST.

ROAD

SHEET. 9-B

~~U.S. HIGHWAY~~

(BURNETT, ST.)

NO. 7

SEE SHEET 2-A

Products Corp.
5-24-40

(b) (6)

(b) (6)

(b) (6)

CARROLLT
SHEET 3-B

TOWN OF
CARROLLTON
SHEET 1-B

JNO. NIX SUR.
ABST. 1069

0.60181